IBM

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iSeries

iSeries Access for Windows–Setup

Version 5

SC41-5507-03

IBM

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> **Note**
>
> Before using this information and the product it supports, be sure to read the information in Appendix D, "Notices" on page 75.

Contents

About iSeries Access for Windows – Setup (SC41-5507-03)

Use this book to install and configure iSeries Access for Windows on both the iSeries server and the PC. This book is a supplement to *Software Installation*, SC41-5120-06.

Installation and configuration is necessary on both the iSeries server and the PC. This book assumes that the system administrator will install and configure the iSeries server, while the end user will be able to use this book to install iSeries Access for Windows on their PC.

Who should read this book

You should read and use this book if you are responsible for installing and configuring iSeries Access for Windows.

Conventions that are used in this book

Several conventions are used throughout this book.
- PC is used throughout this book to refer to personal computer.
- iSeries NetServer is used throughout this book to refer to IBM® iSeries Support for Windows Network Neighborhood.
- NT is used throughout this book to refer to Windows NT® 4.0 and Windows® 2000 unless otherwise noted.
- Windows client is used to represent Windows 98, Me, 2000, NT, and XP unless otherwise noted.

V5R2 product and function names

In V5R2 some iSeries products and functions have been renamed as follows:

V5R1	V5R2
iSeries Client Access Family	iSeries Access
iSeries Client Access Express for Windows	iSeries Access for Windows
iSeries Operations Navigator	iSeries Navigator

Prerequisites and related information

This book contains directions for installing iSeries Access for Windows on both the iSeries server and the PC. iSeries and PC checklists are provided to guide you through the steps that you need to complete to be able to use iSeries Access for Windows. If you are installing and configuring the iSeries server for iSeries Access for Windows, a familiarity with the iSeries server is strongly recommended. If you are installing iSeries Access for Windows on a PC, you should be familiar with Windows.

Use the iSeries Information Center as your starting point for looking up iSeries technical information.

You can access the Information Center two ways:
- From the following Web site:

```
http://www.ibm.com/eserver/iseries/infocenter
```
- From CD-ROMs that ship with your Operating System/400 order:

  iSeries Information Center, SK3T-4091-02. This package also includes the PDF versions of iSeries manuals, *iSeries Information Center: Supplemental Manuals*, SK3T-4092-01, which replaces the Softcopy Library CD-ROM.

The iSeries Information Center contains advisors and important topics such as Java™, TCP/IP, Web serving, secured networks, logical partitions, clustering, CL commands, and system application programming interfaces (APIs). It also includes links to related IBM Redbooks™ and Internet links to other IBM Web sites such as the Technical Studio and the IBM home page.

With every new hardware order, you receive the *iSeries Setup and Operations CD-ROM*, SK3T-4098-01. This CD-ROM contains IBM iSeries Access for Windows and the EZ-Setup wizard. iSeries Access offers a powerful set of client and server capabilities for connecting PCs to iSeries servers. The EZ-Setup wizard automates many of the iSeries setup tasks.

Use the iSeries Access web site as a general source of information on iSeries Access:
```
http://www.ibm.com/eserver/iseries/access/
```

For a listing of additional sources of iSeries Access for Windows information, see Appendix A, "Sources of Information for iSeries Access for Windows" on page 55.

iSeries Navigator

IBM iSeries Navigator is a powerful graphical interface for managing your iSeries servers. iSeries Navigator functionality includes system navigation, configuration, planning capabilities, and online help to guide you through your tasks. iSeries Navigator makes operation and administration of the server easier and more productive and is the only user interface to the new, advanced features of the OS/400 operating system. It also includes Management Central for managing multiple servers from a central server.

You can find more information on iSeries Navigator in the iSeries Information Center and at the following Web site:
```
http://www.ibm.com/eserver/iseries/navigator/
```

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other iSeries documentation, fill out the readers' comment form at the back of this book.
- If you prefer to send comments by mail, use the readers' comment form with the address that is printed on the back. If you are mailing a readers' comment form from a country other than the United States, you can give the form to the local IBM branch office or IBM representative for postage-paid mailing.
- If you prefer to send comments by FAX, use either of the following numbers:
  - United States, Canada, and Puerto Rico: 1-800-937-3430
  - Other countries: 1-507-253-5192
- If you prefer to send comments electronically, use one of these e-mail addresses:
  - Comments on books:

    RCHCLERK@us.ibm.com
  - Comments on the iSeries Information Center:

RCHINFOC@us.ibm.com

Be sure to include the following:
* The name of the book or iSeries Information Center topic.
* The publication number of the book.
* The page number or topic of a book to which your comment applies.

Part 1. Getting Started

Chapter 1. Before You Start

This chapter contains critical information for iSeries system administrators, local area network (LAN) administrators, and anyone else involved in installing iSeries Access for Windows. This includes the information that you need to gather before you begin your installation. This information includes what you need to know about setup on both the iSeries server and the PC.

What is iSeries Access for Windows?

iSeries Access for Windows is the latest offering in the 5722-XE1 product. Pre-V5R2 versions of iSeries Access for Windows were called Client Access Express. iSeries Access for Windows offers a powerful set of capabilities for connecting PCs to iSeries servers. It enables end users, application programmers, and administrators to leverage business information, applications, and resources across an enterprise by extending the iSeries resources to the PC desktop. Integrated graphical user interface (GUI) features deliver increased productivity for end users who access resources on iSeries servers.

iSeries Access for Windows is compatible with Windows 98, Windows Me, Windows 2000, Windows NT 4.0, and Windows XP operating systems.

iSeries Access for Windows:
* is a Windows client to be used over TCP/IP.
* is a full-function client that includes many components from the Client Access for Windows 95/NT client, such as PC5250 and data transfer (with additional enhancements).
* can communicate with iSeries servers using a secure connection that utilizes Secure Sockets Layer (SSL).
* provides a streamlined installation which also gives administrators more flexibility and control.
* is Java-compatible.
* utilizes file and print serving capabilities integrated into iSeries Support for Windows Network Neighborhood (iSeries NetServer) function, which is included in OS/400® V4R2 (or later). This has improved overall stability and eliminated the need for daemons (background tasks) to run on the client.
* includes an extensive number of application programming interfaces (APIs), such as APIs for ODBC, ActiveX, ADO, OLE DB, etc.

Where to find documentation on iSeries Access for Windows

You can obtain additional documentation about iSeries Access for Windows. The following are your options:
* Installing iSeries Access for Windows
  - Use this publication for complete documentation on setting up, installing, and configuring iSeries Access for Windows. You can find a PDF version in the iSeries Information Center, www.ibm.com/eserver/iseries/infocenter, by clicking **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Related Information -> iSeries Access for Windows–Setup V5R2M0**.
* Using iSeries Access for Windows
  - For complete documentation on using the iSeries Access for Windows client, see the User's Guide, an online help system available on the PC after

installation. The User's Guide can be found in the iSeries Access for Windows folder. You can access the User's Guide by clicking **Start -> Programs -> IBM iSeries Access for Windows -> User's Guide**.

Note: The User's Guide is an optionally installable component of iSeries Access for Windows. If you did not find the Guide in the iSeries Access for Windows folder, you can use selective install to install it.

– For information about changes for this release and migration from Client Access for Windows 95/NT see the Welcome Wizard. The Welcome Wizard is available after installation in the iSeries Access for Windows folder by clicking **Start -> Programs -> IBM iSeries Access for Windows -> Welcome Wizard**.

Note: The Welcome Wizard is optionally installable as part of the Required Programs of iSeries Access for Windows. If you did not find the wizard in the iSeries Access for Windows folder, you can use selective install to install Required Programs.

The Welcome Wizard starts automatically after the installation of iSeries Access for Windows unless you chose not to start it in the installation wizard.

– For information about getting started, administering, and programming iSeries Access for Windows, see the Information Center located at www.ibm.com/eserver/iseries/infocenter. The iSeries Access for Windows topics covered in the Information Center include:
  - Information on configuring, maintaining, and controlling the PC clients in the network.
  - Information for the administration of iSeries NetServer file and print sharing, policies, application administration, connections, host servers, installation, and multiple users.
  - Information on iSeries Access for Windows APIs and technical reference material.
– Additional information is available at the following Web sites:
  - The IBM iSeries Access Home Page at www.ibm.com/eserver/iseries/access/.
  - The IBM iSeries NetServer Home Page at www.ibm.com/eserver/iseries/netserver/.
– For Redbooks with related information, see:
  - *AS/400® Client Access Express for Windows: Implementing V4R4M0*, SG24-5191.
  - *The AS/400 Netserver Advantage*, SG24-5196.
  - *Managing AS/400 with Operations Navigator*, SG24-5646.

You can find additional resources in Appendix A, "Sources of Information for iSeries Access for Windows" on page 55.

Connectivity Comparison Between Client Access for Windows 95/NT and iSeries Access for Windows

The following tables show the networks, application programming interfaces (APIs) and communication programs that AS/400 Client Access for Windows 95/NT and iSeries Access for Windows support. This table allows you to compare connectivity between AS/400 Client Access for Windows 95/NT and iSeries Access for Windows. The last release of AS/400 Client Access for Windows 95/NT (V3R2M0) was last updated at V4R3. It continued to ship on releases through V4R5.

Table 1. Connectivity Comparison Between AS/400 Client Access for Windows 95/NT and iSeries Access for Windows

Functions	AS/400 Client Access for Windows 95/NT (5763-XD1, V3R2M0)	iSeries Access for Windows (5722-XE1, V5R2M0)
TCP/IP Networks		
Token-Ring	X	X
Ethernet	X	X
ATM	X	X
Asynchronous (SLIP)	X	X
PPP (Point to Point Protocol)	X	X
Twinax	X	X
Note: Visit the following Web site for information on running TCP/IP over Twinax: www.networking.ibm.com/525tcpip.		
Communications Programs Supported		
NS/Router (32-bit router)	X	
NetWare for SAA® (32-bit router)	X	
MS SNA Server	X	
IBM Personal Communications	X	
IBM Comm Server	X	
WINAPPC compatible	X	
Winsock 1.1 compatible	X	X
Winsock 2.X compatible		X
LAN Drivers		
MS DLC (32-bit)	X	
Communication APIs Provided		
EHNAPPC (16–bit)	X	
EHNAPPC (32–bit)	X	
CPI-C	X	
TCP/IP Networks (AnyNet®)		
Token-Ring	X	
Ethernet	X	
Asynchronous (SLIP)	X	
SNA Networks		
Token-Ring	X	
Ethernet	X	
Twinax	X	
Synchronous Data Link Control (SDLC)	X	
Asynchronous	X	
AutoSync	X	

Notes for Client Access for Windows 95/NT users:

1. The last release of Client Access for Windows 95/NT was shipped at V4R5.
2. If you are migrating to iSeries Access for Windows and you are not using a domain name server, be aware that iSeries Access for Windows does not change the HOSTS file. Unless you use the TCP/IP address as the system name, you need to manually add to the HOSTS file any new iSeries connections that you configure. To do this, see "TCP/IP configuration on the PC - Updating the HOSTS file" on page 73.

Service Packs

iSeries Access for Windows incorporates all code fixes into a service pack. The most recent service pack contains all the fixes from the prior service packs in addition to new fixes that are contained in the current service pack.

When a service pack PTF is applied on the server, the original iSeries Access for Windows installation image is updated. Any client that installs from this updated installation image gets the new iSeries Access for Windows release plus the service pack level at the same time.

Important:

PTFs for the following components are provided independently of the iSeries Access for Windows service pack.
- Secure Sockets Layer (SSL)
- iSeries Navigator plug-ins

iSeries Access for Windows check service level will find any of these PTFs that you apply to the iSeries server and will download the fix.

Be sure you have the most recent PTFs and service packs. You can avoid unnecessary calls to service for problems that may already have fixes, and create a more stable operating environment for your iSeries Access for Windows client.

Service packs are available in a PC-executable form at the following Web sites:
- The iSeries Access Service Packs page:

  `www.ibm.com/eserver/iseries/access/casp.htm`
- The IBM FTP site:

  `ftp://ftp.software.ibm.com`

  Navigate down the AS/400 directory to
  as400/products/clientaccess/win32/v5r2m0/servicepack.

License Information

IBM iSeries Access for Windows is a licensed program. Some components of iSeries Access for Windows require an iSeries Access (5722-XW1) license before you can use them. All components ship with the iSeries Access for Windows program.

The following components require an iSeries Access license and an OS/400 license before you can use them:
- PC5250 Display and Printer Emulation
- Data Transfer

Important: A software license key is required for iSeries Access 5722-XW1. iSeries Access is included on the V5R2 Keyed Stamped Media that comes with all OS/400 V5R2 software orders. You receive a license key if you order 5722-XW1. If you

have not ordered 5722-XW1, you may evaluate the product from the keyed stamped media for 70 days. At the end of the 70-day evaluation period, the product will be disabled if you have not ordered the product and received a software license key. The software license key is an 18-digit authorization code that allows the software product and feature on the keyed stamped media to be used on a specified iSeries server.

For information on entering license key information, see "Required and Optional Programs to Install" on page 15.

Besides PC5250 Display and Printer Emulation and Data Transfer components, all other components require only an OS/400 license before you can use them.

The type of install you choose to perform determines which components are installed. Following are the types of installs you can choose and whether or not the component requires a license to install:

Note: For the PC5250 Emulation and Data Transfer components, a license is not required to install these components, but a license is required to **run** these components.
- The **Typical**, **PC5250 User**, and **Full** install choices include components that require an iSeries Access license.
- With the **Custom** install choice, you can choose which components to install. Depending on the components you select, you may or may not require an iSeries Access license. The setup program lists the components that require a license.

iSeries Access for Windows clients are licensed by the number of concurrently active PCs accessing iSeries servers. A PC running iSeries Access for Windows holds a license through the duration of the licensed function plus additional time that is specified in the iSeries Access for Windows properties page. When this time expires, the license is available for another PC to use. If a PC accesses a licensed program on more than one iSeries server, that PC requires a license on each iSeries server to which it connects using a licensed function.

When using iSeries Access for Windows on a PC, more than one session to the iSeries server can be established on that PC, but only one iSeries Access license is used. For example, you can start many 5250 emulation or Data Transfer sessions, but the PC requires only one license.

iSeries Access for Web is another product that requires iSeries Access licenses. Be aware that if the iSeries Access for Web product is being used on the same PC as iSeries Access for Windows, each of those products will use a separate license: therefore, when using both products, one PC will use a minimum of two iSeries Access licenses. For more information on license usage for iSeries Access for Web, refer to *iSeries Access for Web*, SC41-5518-01 at http://www.ibm.com/eserver/iseries/access/web/guide.htm.

Licensing is managed at the iSeries Access level, not at the individual client level. Therefore, any combination of the iSeries Access for Windows and iSeries Access for Web clients is allowable up to the license limit.

To determine the iSeries Access usage limit:
__ 1. Type the **WRKLICINF** command on the iSeries server to which you intend to connect. A list of products appears.
__ 2. Type **/** in the entry field next to the product 5722XW1. This will display the details for the iSeries Access License product, including the usage limit. The

usage limit should be equal to the number of licenses that are purchased for iSeries Access. Any number exceeding the purchased limit violates the IBM license agreement.

__ 3. To use 5722-XW1, update the usage limit for the 5722-XW1 product on your server by doing the following:

    __ a. Type the **WRKLICINF** command on the iSeries server to which you intend to connect. A list of products appears.

    __ b. Type 2 in the entry field next to the product 5722XW1 Base, Feature 5050. Change the usage limit to the number of licenses that you have purchased for iSeries Access. If you have purchased the processor-based option for iSeries Access, enter the value ***NOMAX** for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.

__ 4. To use V5R2 5722-XW1, enter the license key information by doing the following:

    __ a. Type the WRKLICINF command on the iSeries server to which you intend to connect. A list of products appears.

    __ b. Type 1 in the entry field next to the product 5722XW1 Option 1, Feature 5101. Enter the license key information.

Chapter 2. iSeries Setup Checklist

To use iSeries Access for Windows, you must install and configure software on both an iSeries server and a PC. Use this checklist to guide you through the steps necessary to install and configure iSeries Access for Windows on the iSeries server. iSeries Access for Windows needs to be installed on your server before you can install iSeries Access for Windows service packs on your server. After installation on your server, you can install iSeries Access for Windows from the iSeries server to the client PCs.

1. Install iSeries Access for Windows on the iSeries server by using the instructions in Chapter 4, "Installing iSeries Access for Windows on the iSeries server" on page 15. The chapter steps you through installing the required and optional programs on the iSeries server.
2. Install the latest Program Temporary Fixes (PTFs) for the IBM Operating System/400 (OS/400) and for iSeries Access for Windows. For instructions on installing PTFs on the iSeries server, see the Managing fixes topic in the Information Center under **System planning and installation -> Get started with iSeries -> Manage system operations**.
3. Configure TCP/IP on the iSeries server by using the resources provided in Chapter 5, "Configuring TCP/IP on the iSeries server" on page 21.
4. If you will allow end users to install iSeries Access for Windows from the iSeries server, you may need to configure iSeries NetServer on the iSeries server. Network drive support that was available in Client Access for Windows 95/NT is no longer available. Instead, you can use iSeries NetServer to make the iSeries Access for Windows install image on the iSeries server available to PC users.

   For configuration instructions on the iSeries server, see Chapter 6, "Configuring iSeries NetServer on the iSeries server" on page 23.
5. You have completed installing and configuring iSeries Access for Windows on the iSeries server. Follow the Chapter 3, "PC Setup Checklist" on page 11 to install iSeries Access for Windows on the PC.

   To learn more about iSeries Access for Windows, see the references provided in Appendix A, "Sources of Information for iSeries Access for Windows" on page 55.

Chapter 3. PC Setup Checklist

Use this checklist to guide you through the steps necessary to install and configure iSeries Access for Windows on the PC. The system administrator must install and configure iSeries Access for Windows on the iSeries server before you can install it from the iSeries server.

1. Verify that your PC meets the following requirements. If you are installing Operations Console or iSeries Navigator, or both, see this iSeries Access web site for more information on PC requirements:

   www.ibm.com/eservers/iseries/access/v5r2pcreq.htm

Table 2. PC requirements — Processor, memory & service pack level

Operating System	iSeries Access for Windows	iSeries Access for Windows with iSeries Navigator
Windows 98/Me	Pentium® 100 MHz and at least 32 MB	Pentium 400 MHz minimum and at least 128 MB, 256 MB recommended
Windows NT 4.0	Pentium 100 MHz and at least 32 MB, Microsoft® service pack 5 or later	Pentium 400 MHz minimum and at least 128 MB, 256 MB recommended Microsoft service pack 5 or later
Windows 2000	Pentium 133 MHz and at least 64 MB	Pentium 400 MHz minimum and at least 128 MB, 256 MB recommended
Windows XP	Pentium 233 MHz and at least 128 MB	Pentium 400 MHz and at least 256 MB

> **Note:** If you do not plan to use iSeries Navigator for anything other than managing your iSeries connections (adding, removing, and changing connection properties), it is recommended that you do not install the iSeries Navigator base component. Installing that component will result in higher memory usage when managing your iSeries connections.

Table 3. Other PC requirements

Disk Space - Install	**Typical** - 124 MB (approximately) **PC5250 User** - 44.5 MB (approximately) **Full** - 185 MB (approximately) **Custom** - variable depending upon components installed

Table 3. Other PC requirements (continued)

Notes: a. The Disk Space - Install values are approximate; for the exact values see this iSeries Access web site: `www.ibm.com/eservers/iseries/access/v5r2pcreq.htm` b. You need 5 MB free on the drive where Windows is installed to accommodate temporary files that the iSeries Access for Windows setup program creates. c. Additional files download from the iSeries server when you use the File Systems function of iSeries Navigator. d. Service packs require additional space. e. The size for a **Full** installation could be different depending on whether SSL and plug-ins are in the install search path.	
Adapter Card	A communications adapter card that supports TCP/IP.

2. iSeries Access for Windows uses TCP/IP to connect to an iSeries server. Install and configure TCP/IP on your PC by using the instructions in Chapter 7, "Setting Up TCP/IP on the PC" on page 27.
3. If you plan on installing iSeries Access for Windows from an iSeries server, you need to configure iSeries NetServer on your PC. See Chapter 8, "Configuring your PC for iSeries NetServer Use" on page 33.
4. If you are migrating from a previous release of AS/400 Client Access for Windows 95/NT, skip the rest of this checklist and go to Chapter 10, "Migrating to iSeries Access for Windows" on page 43.
5. Install iSeries Access for Windows on your PC by using the instructions in Chapter 9, "Installing iSeries Access for Windows on the PC" on page 37.

   Caution:

   iSeries Access for Windows works with InstallShield during setup. Anti-virus programs can interfere with the compatibility of InstallShield. You should disable any anti-virus programs that are running on your PC, before you install iSeries Access for Windows.
6. You have completed setting up iSeries Access for Windows on your PC.

To learn more about iSeries Access for Windows, see the references provided in Appendix A, "Sources of Information for iSeries Access for Windows" on page 55.

Part 2. iSeries Setup and Installation

Chapter 4. Installing iSeries Access for Windows on the iSeries server

You can install iSeries Access for Windows V5R2M0 on OS/400 V5R1 and later, and IBM supports PC connections to servers with OS/400 V4R5 and later. If you are on an earlier release of OS/400, see *Software Installation*, SC41-5120-06, for instructions on upgrading your OS/400 to a supported release. There is no IBM support for connection to releases prior to V4R5. If you do need to install a new release of OS/400, be sure to follow the instructions in *Software Installation*, SC41-5120-06, before you continue installing iSeries Access for Windows.

Note: In order to install on the iSeries server, you need a security level of Security Officer (*SECOFR). This is the highest level of security on the iSeries server. This security level is required for installation only, not for regular use of iSeries Access for Windows.

iSeries Storage Requirements

Your iSeries server must have sufficient storage to install iSeries Access for Windows, or the installation cannot complete.

Table 4. iSeries Space Required to Install iSeries Access for Windows

Amount	Purpose
110M	Install Image
18.7M*	Online help information, online User's Guide, messages
*This size is for the 2924 (English) national language version. Sizes are different for every other NLV.	

For instructions on how to check the amount of storage your server has available, see the information about evaluating disk storage needs in the Information Center under **Installation, upgrades, and migration -> Install the OS/400 release and related software**.

Required and Optional Programs to Install

The programs you install depend on the features you will be using in iSeries Access for Windows. As you go through this section, write down the programs you need to install. You will need to know them for the next sections.

Note: The iSeries Access for Windows primary language on the iSeries server is set to the first iSeries Access for Windows language that you install. However, if you install a subsequent iSeries Access for Windows language that matches the OS/400 primary language, that language will become the new iSeries Access for Windows primary language on the iSeries server.

Required licensed program options:

Table 5. Required Programs to Install for iSeries Access for Windows

Program	Option	Description
5722-SS1	12	Operating System/400 Host Servers
5722-XE1	Base	iSeries Access for Windows
5722-XW1	Base, 1	iSeries Access
5722-TC1		TCP/IP Utilities
Note: Each product that you install will need to be at the latest level.		

Notes:

1. Licensed Programs 5722-XE1 and 5722-XW1 were introduced in V5R1M0 and replaced V4R4M0 5769-XE1 and 5769-XW1, respectively.
2. You only need to install iSeries Access 5722-XW1 Base and Option 1 if you want to use Data Transfer or PC5250.
3. 5722-XE1 does not necessarily have to be installed on your server. Nevertheless, you need to install 5722–XE1 if you want to use the following parts of iSeries Access for Windows:
   - Service Pack management
   - Secondary Language support
   - Install and Selective Setup through the iSeries server
4. To use 5722-XW1, update the usage limit for the 5722-XW1 product on your server by doing the following:
   - __ a. Type the **WRKLICINF** command on the iSeries server to which you intend to connect. A list of products appears.
   - __ b. Type 2 in the entry field next to the product 5722XW1 Base, Feature 5050. Change the usage limit to the number of licenses that you have purchased for iSeries Access. If you have purchased the processor-based option for iSeries Access, enter the value ***NOMAX** for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.
5. To use V5R2 5722-XW1, enter the license key information by doing the following:
   - __ a. Type the WRKLICINF command on the iSeries server to which you intend to connect. A list of products appears.
   - __ b. Type 1 in the entry field next to the product 5722XW1 Option 1, Feature 5101. Enter the license key information.

Optional licensed programs

Secure Sockets Layer (SSL) support with iSeries Access for Windows is available. To use SSL, order and install the appropriate product from the following table. You are responsible for making sure that you are using the correct encryption for your country and the countries that your iSeries server does business in.

Table 6. Programs required to Install SSL

If you want	Then install
128-bit server encryption	5722-AC3 (Cryptographic Access Provider)
	5722-SS1 - Boss Option 34
	5722-DG1 (HTTP Server)

SSL support can only be installed on a PC from the iSeries server, or from a peer server that contains copies of the Client Encryption install directories. If you plan on allowing end users to install the following SSL product from the iSeries server, then 5722-XE1 (iSeries Access for Windows) needs to be on the iSeries server.

Note: The release of iSeries Access for Windows on the iSeries server must match the release of iSeries Access for Windows that is installed on the PC. If the release on the server and PC do not match, then SSL support will not show up in the selective setup component list.

Table 7. Program needed to install SSL support to the PC

If you want	Then install
128-bit client encryption	5722-CE3 (Client Encryption)

Notes:

1. If you are upgrading from V4R5 or V5R1 to V5R2M0 and you had the CE1, CE2, or CE3 component installed on your PC, iSeries Access for Windows will automatically uninstall the component from your PC. It will also install the matching V5R2M0 component if it is available. Since CE1 and CE2 are no longer available in V5R2, it will be replaced with V5R2 CE3.
2. Client Encryption products (5722-CE3) contain encryption software from RSA Data Security, Inc.

After installing the Client Encryption product on the iSeries server, you need to authorize the users to the files. To help you meet the SSL legal responsibilities, the files in 5722-CE3 are shipped so that the users are not allowed to access the files. Therefore, you must change the authority of the directory that contains the SSL files to allow users to access the files. In order to change the authority, use the wrklnk command and select option 9.

For more information on configuring SSL, see the **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration** section of the Information Center.

Installing iSeries Access for Windows on the iSeries server

The following steps guide you through installing iSeries Access for Windows on a V5R1 or later release of OS/400:

1. Sign off all workstation users and end all connections.
2. Sign on to the iSeries server with *SECOFR authority.
3. Load the medium containing the licensed programs on the installation device. If the licensed programs are contained on more than one medium, you can load any one of them.
4. If you are installing 5722-SS1, Option 12 (Operating System/400 Host Servers), then you must put the iSeries server in a restricted state. To put the iSeries server in a restricted state:
    a. At the iSeries command prompt, type CHGMSGQ QSYSOPR *BREAK SEV(60) and press Enter.
    b. If the Display Messages screen appears, press Enter. You will return to the iSeries command prompt.
    c. At the iSeries command prompt, type ENDSBS *ALL *IMMED and press Enter.
    d. The message System ended to restricted condition appears. Press Enter to continue.

e. At the iSeries command prompt, type CHGMSGQ QSYSOPR SEV(95) and press Enter.

f. If the Display Messages screen appears, press Enter. You will return to the iSeries command prompt.

The iSeries server should now be in a restricted state.

5. At the iSeries command prompt, type GO LICPGM, then select Option 11.

Note: For information about option 11, see Appendix B in the manual *Software Installation*, SC41-5120-06.

6. Type 1 in the Option column next to each of the licensed programs that you need to install. For a list of the programs you need to install, see "Required and Optional Programs to Install" on page 15. Press Enter to continue.

7. The Confirm Install of Licensed Programs screen appears. Press Enter to confirm your choices.

8. The Install Options screen appears. Specify the following values and press Enter:

Parameter	Value
Installation Device	Name of the installation device. For example, OPT01.
Objects to Install	1
Automatic IPL	N

9. The licensed programs will now install.
    - You will see a screen that indicates the status of the install. You do not need to respond to the status screen.
    - If the licensed programs that you selected are on multiple volumes, the install program will prompt you for a new volume. Load the next media volume, press G and then Enter. If you do not have any additional media volumes, press X and then Enter.

10. When the installation completes, you will see the Work with Licensed Programs screen.
    - If the installation ran successfully, you will see Work with licensed programs function has completed. Press F3 to return to the iSeries command prompt.
    - If the installation failed, you will see Work with licensed programs function not complete. See the Appendix A in *Software Installation* to determine the problem.

11. Once you have installed all of the desired licensed programs, you need to install the latest cumulative PTF package on the iSeries server. If you installed the latest cumulative package and you have not installed 5722-XE1, you need to install all 5722-XE1 service pack PTFs from the cumulative PTF package after installing 5722-XE1.

    For information on how to install PTFs on the iSeries server, see the Fixes (PTFs) topic in the Information Center under **Planning -> View entire planning checklist** . The link to Fixes (PTFs) is in the checklist.

12. Verify that iSeries Access for Windows installed correctly by typing CHKPRDOPT 5722XE1 at the iSeries command prompt. If iSeries Access for Windows installed correctly, you will receive a message that CHKPRDOPT did not detect any errors.

Deleting iSeries Access for Windows

To save disk space or to remove features that you no longer use, you may decide to delete features from the iSeries server.

1. Sign on to the iSeries server with a user ID that has security officer (*SECOFR) authority.
2. Type `DLTLICPGM` at the iSeries command prompt. Specify the following parameters and values and use the defaults for the other parameters.

Parameter	Value
Product	5722XE1
Language for licensed program	Type xxxx, where xxxx is the National Language Version (NLV) identifier. Ignore this field if the NLV is English.

Note: Any optional programs for iSeries Access for Windows that you installed such as 5722-CE3 will need to be uninstalled separately.

Chapter 5. Configuring TCP/IP on the iSeries server

TCP/IP is a licensed program that is shipped with Operating System/400. This chapter assumes that you have TCP/IP installed on your iSeries server. The process of installing TCP/IP on your iSeries server can be found in Chapter 4, "Installing iSeries Access for Windows on the iSeries server" on page 15.

If you have TCP/IP already set up on your iSeries server, then you do not need to perform any additional TCP/IP configuration for iSeries Access for Windows.

Note: VPN is an option for secure remote connections. For iSeries VPN information, see the following:
- The iSeries Information Center at the following location: **Networking -> Networking security -> Virtual private networking**.
- The following redbooks located at **www.redbooks.ibm.com**:
  - *AS/400 Internet Security: Implementing AS/400 Virtual Private Networks*, SG24-5404-00. Chapters 10 and 11 discuss VPN clients.
  - *AS/400 Internet Security Scenarios: A Practical Approach*, SG24-5954-00. Chapter 7 includes a scenario using VPN client (see section 7.4). Chapter 12 includes remote VPN client with Win2000.

Configuring TCP/IP for LAN use

If you plan on using iSeries Access for Windows over a LAN, then you must configure TCP/IP for LAN use. For information on configuring TCP/IP on your iSeries server, see the TCP/IP Setup topic in the Information Center under **Networking -> TCP/IP**.

Configuring TCP/IP for PPP or SLIP connections

If you are using SLIP or PPP to connect the PC to the iSeries server, see the topic about PPP connections in the Information Center under **Networking -> TCP/IP** for information on configuring point-to-point TCP/IP.

Chapter 6. Configuring iSeries NetServer on the iSeries server

This chapter contains the information needed to configure iSeries NetServer on your iSeries server. Then PC users in your network can install iSeries Access for Windows from your iSeries server.

iSeries Access for Windows uses the network drive or network printer capabilities provided by iSeries Support for Windows Network Neighborhood (iSeries NetServer), available with OS/400 V4R2 and later. By relying on iSeries NetServer, iSeries Access for Windows is able to take advantage of the file and print sharing capabilities integrated into Windows operating systems.

Notes:

1. Starting at V5R2M0, iSeries NetServer allows a Kerberos ticket for user authentication. Kerberos is a third party authentication mechanism where the client proves its identity to a Kerberos server (or Key Distribution Center), and then receives a ticket in return. The client can then use that ticket to cryptographically prove its identity to other servers on the network. The Kerberos ticket is used to authenticate a user to a server rather than passing userid and password as the authentication data. Microsoft has added Kerberos authentication abilities to Windows 2000 and Windows XP clients.

   For more information on Kerberos tickets, see the following Information Center location: **Security -> Network authentication service -> Network authentication service protocols**.

2. NetServer logon server support was added at V5R1M0. For information on domain logon support from iSeries NetServer, see the following Information Center location: **Networking -> TCP/IP -> iSeries NetServer -> iSeries NetServer domain logon support**.

PCs can access and benefit from iSeries NetServer without additional software. However, if you need to administer iSeries NetServer properties from your PC client, you must install the iSeries Navigator function in iSeries Access for Windows.

Note: To configure iSeries NetServer file and print sharing capabilities, see instructions at the following Information Center locations:
- For file sharing, **Networking -> TCP/IP -> iSeries NetServer -> iSeries NetServer file shares**.
- For print sharing, **Networking -> TCP/IP -> iSeries NetServer -> iSeries NetServer print shares**.

Additional configuration instructions are available at the following locations:
- The iSeries Information Center at the following location: **Networking -> TCP/IP -> iSeries NetServer -> Get started with iSeries NetServer.**
- In the redbook *The AS/400 Netserver Advantage*, SG24-5196-00.
- In the redbook *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.
- *Managing AS/400 with Operations Navigator*, SG24-5646-00

Configuring iSeries NetServer

The following iSeries configuration is necessary if users in your network will be using file and print sharing.

Note:

- The following instructions assume that you have TCP/IP installed and configured on your iSeries server. If you do not, follow the instructions in Chapter 4, "Installing iSeries Access for Windows on the iSeries server" on page 15 and Chapter 5, "Configuring TCP/IP on the iSeries server" on page 21.
- The following configuration instructions require you to already have access to a PC with iSeries Navigator.

To configure your iSeries server for iSeries NetServer support with iSeries Navigator, do the following:

1. Use the iSeries NetServer setup wizard:
   a. To open the wizard, follow these steps:
      1) Open a connection to **iSeries Navigator** on your iSeries server.
      2) Expand **Network**.
      3) Expand **Servers**.
      4) Click on **TCP/IP**.
      5) Right-click **iSeries NetServer** and select **Configuration**.
   b. Follow the prompts provided by the wizard.

      Note: For additional information about iSeries NetServer configuration, see the iSeries NetServer topic in the Information Center under **Networking -> TCP/IP**.

2. For easier management and resolution of TCP/IP addresses, add an entry for the iSeries NetServer to a Domain Name Server (DNS) or a Windows Internet Name Server (WINS).

   Note: Configuration instructions are located in the iSeries Navigator online help and in the iSeries Information Center at the following location: **Networking -> TCP/IP -> iSeries NetServer -> Quick start guide for iSeries NetServer -> Set up your PC client to use iSeries NetServer -> Set up a Windows 98/NT PC client to find iSeries NetServer**.

3. Changes made to your iSeries NetServer properties do not take effect until the next time iSeries NetServer is started. To start or stop iSeries NetServer:
   a. Open a connection to **iSeries Navigator** on your iSeries server.
   b. Expand **Network**.
   c. Expand **Servers**.
   d. Click on **TCP/IP**.
   e. Right-click **iSeries NetServer** and select **Start** or **Stop**.

Part 3. PC Setup and Installation

Chapter 7. Setting Up TCP/IP on the PC

This chapter explains how to configure TCP/IP on Windows 98, Me, 2000, NT, and XP operating systems. TCP/IP must be correctly installed and configured before you try to connect to an iSeries server.

Notes:

1. This chapter assumes that you have TCP/IP configured on your iSeries server. If TCP/IP is not configured on your iSeries server, see Chapter 5, "Configuring TCP/IP on the iSeries server" on page 21.

2. Virtual Private Network (VPN) is an option for secure remote connections. VPN is supported on PCs running Windows 2000 or Windows XP.

   Note: iSeries Access connections through a VPN connection to an iSeries server are only supported on PCs running Windows 2000, and only to iSeries servers with OS/400 V5R1 and later.

   For iSeries VPN information, see the following:
   - The iSeries Information Center at the following location: **Networking -> Networking security -> Virtual private networking**.
   - The redbook *AS/400 Internet Security: Implementing AS/400 Virtual Private Networks*, SG24-5404-00. Chapters 10 and 11 discuss VPN clients.
   - The redbook *AS/400 Internet Security Scenarios: A Practical Approach*, SG24-5954-00. Chapter 7 includes a scenario using VPN client (see section 7.4). Chapter 12 includes remote VPN client with Win2000.

Installing a Network Adapter or Modem

In order to set up TCP/IP on your PC, you must have a network adapter or modem installed in your PC. If you will be connecting to the iSeries server over a LAN, then you will need a network adapter installed. If you will be connecting to the iSeries server using a SLIP or PPP connection from a remote location, then you will need to install a modem. For information on installing a network adapter or modem, refer to the manufacturer's documentation provided with the hardware. The manufacturer's documentation should also provide information on installing a driver for the hardware.

Configuring TCP/IP Support on the PC

This topic provides the steps that are necessary to configure the Microsoft TCP/IP support that is supplied with Windows.

Note: For Windows NT 4.0 users, make sure that NT service pack 5 or later is installed.

Windows 98/Me

To install and configure the TCP/IP network protocol on Windows 98 or Windows Me, do the following:

1. Click **Start -> Settings -> Control Panel**.
2. Double-click **Network**.
3. Click **Add...** from the **Configuration** tab.
4. Click **Protocol**, and then click **Add**.

5. Click **Microsoft**, click **TCP/IP**, and then click **OK**.When you click **OK**, TCP/IP is added to the Network dialog box. Close the Network Window by clicking **OK**. You may be prompted to restart the PC. Restart the PC now, then continue with the following steps.
6. Click **Start -> Settings -> Control Panel**.
7. Double-click **Network**.
8. Click **TCP/IP**, and then click **Properties**.
9. Click the **IP Address** tab.
10. Click **Specify an IP address**.
11. Enter the IP address of your PC (for example, 199.5.83.205).
12. Enter the Subnet Mask (for example, 255.255.255.0).
13. If you are using a default route, click **Gateway** and
    a. Enter the IP address of the gateway or router in **New gateway**.
    b. Click **Add**.
14. If you are using a domain name server, click **DNS Configuration** and
    a. Enter the Host name of your PC (for example, cameron).
    b. Enter the Domain (for example, acme.com).
    c. Enter the IP address of the domain name server.
15. If you are using a Windows Internet Name Server, click **WINS Address** and
    a. Enter the Primary WINS Server (for example, 199.5.83.205).
    b. Enter the Secondary WINS Server (for example, 199.5.83.205).
16. Click **OK**.
17. You may be asked to restart your computer. Close any applications that are running and click **OK**.

Windows NT

To install and configure the TCP/IP network protocol on Windows NT:
1. Click **Start -> Settings -> Control Panel**.
2. On the control panel, double-click **Network**.
3. Click on the **Protocols** tab.
4. Click **Add...**, then click **TCP/IP**, and click **OK**.

   When you click **OK**, TCP/IP is added to the Network protocols page. Close the Network Window by clicking **OK**. You may be asked to restart your PC. Reboot the PC and continue with the following steps.
5. Return to the **Control Panel** to configure the TCP/IP network protocol by clicking **Start -> Settings -> Control Panel**.
6. Double-click **Network**.
7. Click **TCP/IP**, and then click **Properties**.
    a. Click the **IP Address** tab.
    b. Click **Specify an IP address**.
    c. Enter the IP address of your PC (for example, 199.5.83.205).
    d. Enter the Subnet Mask (for example, 255.255.255.0).
    e. If you are using a default route, click **Gateway** and
        1) Enter the IP address of the gateway or router in **New gateway**.
        2) Click **Add**.
    f. If you are using a domain name server, click **DNS** and
        1) Enter the Host name of your PC (for example, cameron).
        2) Enter the Domain (for example, acme.com).
        3) Enter the IP address of the domain name server.
    g. If you are using a Windows Internet Name Server, click **WINS Address** and
        1) Enter the Primary WINS Server (for example, 199.5.83.205).
        2) Enter the Secondary WINS Server (for example, 199.5.83.205).
        3) Enable DNS for Windows Resolution, by selecting the checkbox.
        4) Enable LMHOSTS Lookup, by selecting the checkbox.

    h. Click **OK**.

    i. You may be asked to restart your computer. Close any applications that are running and click **OK**.

Windows 2000/ Windows XP

To install and configure the TCP/IP network protocol on Windows 2000/Windows XP:

- Click **Start ->Settings ->Control Panel**.
- On the control panel, double-click **Network and Dial-Up Connections**.
- Right-click **Local Area Connection**.
- Click on **Properties**.
- Click on **Install**.
- Select **Protocol**, and then click **Add**.
- Select **Internet Protocol (TCP/IP)**, and then click **OK**. This returns you to the *Local Area Connection Properties* window.
- Select **Internet Protocol (TCP/IP)**, and then click on **Properties**.
- Select **Using the Following IP Address**.
  - Enter the IP address of your PC (for example, 199.5.83.205).
  - Enter the Subnet Mask (for example, 255.255.255.0).
  - Enter the Default Gateway (for example, 199.5.83.1).
  - Enter the Preferred DNS Server (for example, 199.5.100.75).
  - Enter the Alternate DNS Server (for example, 199.5.100.76).
- If you are using a Windows Internet Name Server, click on the **Advanced** tab and select **WINS Address**.
  1. Click on **Add** .
  2. Enter the Primary WINS Server (for example, 199.5.83.205).
  3. Enter the Secondary WINS Server (for example, 199.5.83.205).
  4. The remaining settings should remain at the defaults.
- Click **OK** on the **Local Area Connection Properties** window. It is not necessary to reboot your PC.

If you are not using a domain name server, you need to add the iSeries server's name, with which you want to communicate, to the HOSTS file. Also, add the iSeries NetServer server name to the LMHOSTS file if you are relying on iSeries NetServer for file and print serving. For instructions on updating your LMHOSTS file, see Chapter 8, "Configuring your PC for iSeries NetServer Use" on page 33. To create or change the HOSTS file:

1. Open a DOS window.
2. Change to the directory that should contain the HOSTS file. For example:

   `c:\>cd\winnt\system32\drivers\etc`

   Note: The examples in this section use the `\winnt\system32\drivers\etc` directory, which is a Windows NT and Windows 2000 directory. On Windows 98 and Windows Me, the directory would be `\windows`.

3. If a file named HOSTS already exists in this directory, skip this step. Copy the sample hosts file (supplied by Windows) to the hosts file after you have verified that no HOSTS file exists.

   For example:

   `c:\winnt\system32\drivers\etc>copy hosts.sam hosts`

4. Edit the HOSTS file. For example:

   `c:\winnt\system32\drivers\etc>edit hosts`

   Note: With Windows NT 4.0 and Windows 2000, the HOSTS file MUST be in the **winnt\system32\drivers\etc** directory.

With Windows 98, Windows Me, and Windows XP the HOSTS file MUST be in the **\windows\system32\drivers\etc** directory.

Follow the instructions in the HOSTS sample file to add the IP address and name of the iSeries server that you want to connect to.

5. Save the HOSTS file.

Note: For PC5250, if you do not use a name server or hosts table, you cannot start the 5250 emulator delivered with iSeries Access for Windows. The left bottom corner of your emulation display indicates a 657 communication error (*Resolving TELNET 5250 server host-domain name*).

You may choose to use a HOSTS file if you have very few machines using TCP/IP. This requires that you maintain an up-to-date list on each computer. When an iSeries address changes, you **must** change the HOSTS file entry if one exists.

Configuring TCP/IP over Twinax connections

The driver required to support TCP/IP over a twinax connection is not shipped with iSeries Access for Windows. You must download it from the following Web site:

```
www.networking.ibm.com/525tcpip
```

If you are using TCP/IP over a twinax connection, see Information APAR II11022 for iSeries Access for Windows support statement on this type of connection.

Installing Dial-Up Networking on the PC

If you will be connecting to the iSeries server over a SLIP or PPP connection (using a modem), you need to install Dial-Up Networking on your PC. If you are connecting to your iSeries server over a LAN, or if you already have Dial-Up Networking installed on your PC, you can continue with "Verifying TCP/IP Configuration" on page 31.

To install Dial-Up Networking on Windows 98/Me:
1. Click **Start -> Settings -> Control Panel**
2. Double-click **Add/Remove Programs**
3. On the Windows Setup tab, place a check next to Communications if it is not already checked
4. Click **Details**
5. Place a check next to Dial-Up Networking
6. Click **OK** twice and insert the Windows 98 or Windows Me CD if prompted
7. Click **OK**. Setup will install the Dial-Up Networking files. You will need to reboot the system before you can use Dial-Up Networking

If you are using Windows NT, Windows 2000, or Windows XP, you still need to install Dial-Up Networking. When Dial-up Networking installation completes, you are prompted to set up the Remote Access Services. You can find the instructions to do so at Microsoft's Web site:
1. Point your web browser to `www.microsoft.com`
2. Click the Search link
3. Enter `Dial-Up Networking` in the search field and press Enter to search.
4. One of the entries in the search results will contain the instructions necessary to install and configure both Dial-Up Networking and Remote Access Service on the operating system you are using.

Note: If you plan to make dial-up connections on Windows NT, we recommend that you install NT Service Pack 5 or later. The service pack will improve the stability of your dial-up connection.

Verifying TCP/IP Configuration

You can verify that TCP/IP is set up correctly on your PC by performing a PING to the iSeries server:

1. Open a DOS window or Command Prompt.
2. Type `PING system` where `system` is the name of the iSeries server that you wish to connect to.
3. If your TCP/IP configuration is correct, you should see reply messages from the iSeries server. If you do not see these reply messages, here are some possible reasons why PING failed:
   a. You may be trying to PING the wrong address. Check the address of the iSeries server.
   b. You may have an incorrect IP address listed for the iSeries server in your HOSTS file or DNS entry. This occurs only when you try to PING an iSeries server by name (as opposed to the IP address). If so, try `PING nnn.nnn.nnn.nnn` where `nnn.nnn.nnn.nnn` is the IP address of the iSeries server that you want to connect to. You can obtain the IP address of the iSeries server from your system administrator. If that works, update your HOSTS file or DNS entry with the correct address.
   c. Incorrect LAN adapter address set in the adapter properties on the PC
   d. There is no actual physical connection to the iSeries server
   e. The iSeries server or network name is not correct
   f. TCP/IP is not configured correctly on the PC
   g. TCP/IP is not installed or configured correctly, or is not started, on the iSeries server. These problems need to be addressed by the system administrator.
   h. The iSeries server is down.
   i. Unexplained causes. Reboot and go through the configuration process again.

Chapter 8. Configuring your PC for iSeries NetServer Use

This chapter contains the minimum information needed to configure the PC as an IBM iSeries Support for Windows Network Neighborhood (iSeries NetServer) client. Instructions for setting up file and print shares are available at the following Information Center locations:
- For file sharing, **Networking -> TCP/IP -> iSeries NetServer -> iSeries NetServer file shares.**
- For print sharing, **Networking -> TCP/IP -> iSeries NetServer -> iSeries NetServer print shares.**

Additional configuration instructions are available at the following locations:
- The iSeries Information Center at the following location: **Networking -> TCP/IP -> iSeries NetServer -> Get started with iSeries NetServer.**
- The following redbooks located at **www.redbooks.ibm.com**:
  - *The AS/400 Netserver Advantage*, SG24-5196-00.
  - *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191-00.

Installing iSeries Access for Windows over a network can be done using iSeries NetServer. This support does not require any additional software on your PC. iSeries NetServer takes advantage of the native file and print sharing capability in Windows 98, Windows Me, Windows 2000, Windows NT, and Windows XP, enabled using the X/Open Company industry-standard Server Message Block (SMB) protocol. In order to configure the PC for iSeries NetServer use, you must have:
- TCP/IP configured on both the iSeries server and the PC (see Chapter 5, "Configuring TCP/IP on the iSeries server" on page 21 and Chapter 7, "Setting Up TCP/IP on the PC" on page 27).
- iSeries NetServer configured on the iSeries server (see Chapter 6, "Configuring iSeries NetServer on the iSeries server" on page 23).

Configuring the PC as an iSeries NetServer Client

To configure your PC for iSeries NetServer support, the steps vary depending on which operating system you are using. Go to the section below for your operating system.
1. **Check Windows 98/Me settings:**
   a. From the Windows desktop, click **Start -> Settings -> Control Panel**.
   b. Double-click **Network**.
   c. Go to the **Configuration** tab and verify that you have Client for Microsoft Networks and TCP/IP added and configured.
   d. Go to the **Identification** tab and verify that you have a unique Computer Name on the network.
   e. Make sure that you have a valid Workgroup name that is configured (preferably the same one as the iSeries NetServer Domain name)
   f. Go to step 5 on page 34.
2. **Check Windows NT settings:**
   a. From the Windows desktop, click **Start -> Settings -> Control Panel**.
   b. Double-click **Network**.
   c. Select **Services** and verify that you have workstation added.
   d. Click on the **Identification** tab. Make sure that you have a unique Computer Name and a valid Domain (workgroup) name configured (preferably the same one as the iSeries NetServer).

e. Go to the **Protocols** tab and make sure that the TCP/IP Protocol is there and is configured properly.

f. Continue with step 5.

3. **Check Windows 2000 settings:**

a. From the Windows desktop, right-click **My Network Places**. Then, click **Properties**.

b. Click **Network identification**. Make sure that you have a unique Computer Name and a valid Domain (workgroup) name configured (preferably the same one as the iSeries NetServer). Close this dialog.

c. Right-click the **Local Area Connection** icon and select **Properties**. Make sure that the TCP/IP Protocol is there and is configured properly.

d. Continue with step 5.

4. **Check Windows XP settings:**

a. From the Windows desktop, right-click **My Network Places**. Then, click **Properties**.

b. Right-click **Local Area Connection** and select **Properties**. Make sure that the TCP/IP Protocol is there and is configured properly.

c. Continue with step 5.

5. **Check TCP/IP Support.**

a. Open a DOS window.

b. There are two ways to check PC client to iSeries NetServer connectivity. Type the following to make sure that your PC can talk to the iSeries NetServer.

```
NBTSTAT -a iSeries-NetServer-server-name
```

If the NBTSTAT command fails, verify that your IP address resolution strategy is correct by trying the following:

```
PING iSeries-NetServer-server-name
```

c. If your results fail, try adding an entry to the iSeries NetServer to the PC's local LMHOSTS file.

1) Look in either the \Windows directory for Windows 98/Me or the \WINNT\system32\drivers\etc directory for Windows NT for the LMHOSTS file.

Note: If you cannot find the LMHOSTS file in the specified directory, you have two options:
- create a new LMHOSTS file
- copy or rename LMHOSTS.SAM in that same directory to LMHOSTS

2) Complete instructions are provided in the LMHOSTS.SAM file.

3) Type the following to reload PC cache from the updated LMHOSTS file.

```
NBTSTAT -R
```

d. If you are using Windows 98/NT, continue to 6. If you are using Windows 2000/Me, continue to 7.

6. **Find iSeries NetServer and Shared Resources from Windows 98/NT.**

a. From the Windows desktop, click **Start -> Find -> Computer**.

b. Type in the iSeries NetServer name. Double-click on the iSeries NetServer name to display the iSeries NetServer shares that the administrator has made available to you.

7. **Find iSeries NetServer and Shared Resources from Windows 2000/Me.**

a. From the Windows desktop, right click **My Network Places**.

b. Select **Search for Computers**.

c. Fill in the NetServer name and select **Search Now**.

8. **Find iSeries NetServer and Shared Resources from Windows XP.**

a. From the Windows desktop, right click **My Network Places**.

b. Select **Search for Computers**.

c. Fill in the NetServer name and select **Search**.

For more information about finding iSeries Netserver, including troubleshooting tips, see the redbook *The AS/400 Netserver Advantage*, SG24-5196.

Chapter 9. Installing iSeries Access for Windows on the PC

You can install iSeries Access for Windows on a PC over a network by using iSeries NetServer, from a CD-ROM, or from a peer server. iSeries Access for Windows does not support installation from diskettes.

If you are migrating from a previous client, follow the instructions in Chapter 10, "Migrating to iSeries Access for Windows" on page 43.

If you are upgrading iSeries Access for Windows, you can install additional functions.

Caution:

iSeries Access for Windows works with InstallShield during setup. Anti-virus programs can interfere with the operation of InstallShield. You should disable any anti-virus programs that are running on your PC before you install iSeries Access for Windows.

Items to consider during install:
- To install the same functions on several PCs, you may consider using the silent install feature of iSeries Access for Windows. Starting at V5R2, you can view the progress of the silent installation through an installation progress indicator. For information on silent installation, see the following Information Center location: **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration -> Install or migrate on multiple PCs**.
- Starting at V5R2, iSeries Access for Windows supports 64-bit versions of the ODBC and OLE DB components. The 64-bit versions do not appear as separate components, but are simply included with the 32-bit versions of these components when installed. If you uninstall the 32-bit versions, the 64-bit versions will also be uninstalled. If you are installing onto 64-bit hardware, you cannot install AFP™ Printer Driver or SCS Printer Driver. Although you can install SSL on a 64–bit PC, it can only be used by the 32–bit versions of iSeries Access functions.
- For the selection of the components that you want to install, consider that there are some components of iSeries Access for Windows that do not need the Required Programs component. They include User's Guide, Lotus® 123 File Format Support, Toolbox for Java, SSL 128-bit component, and Programmer's Toolkit Headers, Libraries and Documentation. iSeries Access for Windows will not automatically check for new Service Packs or Upgrades to be installed on the PC, unless Required Programs was installed.
- On Windows NT 4.0 systems, you must apply Windows NT 4.0 Service Pack 5 or later before you install iSeries Access for Windows.
- The iSeries Access for Windows OLE DB provider requires MDAC 2.5 or later. Therefore, you must install MDAC 2.5 or later before you install the OLE DB provider component. MDAC 2.5 or later is also the most appropriate version for the ODBC driver, but it may be installed after iSeries Access for Windows. Both the ODBC driver and the OLE DB provider are part of a typical install.

  If you will be using the 64-bit OLE DB provider or ODBC driver, the version of MDAC that comes with the 64-bit operating system will be sufficient.
- To install iSeries Access for Windows on a PC that is running Microsoft Windows Terminal Server Edition or Terminal Services, follow the install

instructions in Information APAR II11373. For information on obtaining APARs, see "Information Authorized Program Analysis Report (Information APAR) and PTFs" on page 55.

Using iSeries NetServer to install iSeries Access for Windows

You must have iSeries NetServer configured on your iSeries server and your PC configured to use iSeries NetServer before following these instructions. If you have not already done so, follow the steps in Chapter 6, "Configuring iSeries NetServer on the iSeries server" on page 23 and Chapter 8, "Configuring your PC for iSeries NetServer Use" on page 33 to set up iSeries NetServer.

To install iSeries Access for Windows from an iSeries NetServer (instructions may vary depending on your Windows operating system):
1. From the Windows desktop, click **Start -> Find -> Computer**.

   Note for Windows 2000 users: To quickly access the search computer function, right-click the **My Network places** icon, and then click **Search for Computers**.
2. Type in the iSeries NetServer name that you want to use to install iSeries Access for Windows and click **Find Now**.

   Note: If you cannot find iSeries NetServer by name, type in the IP address instead of the iSeries NetServer name. To find the IP address, perform a PING to the iSeries server as follows:
   a. Open a DOS window or Command Prompt.
   b. Type PING system where system is the name of the iSeries server that you wish to connect to.
3. Double-click the computer name when it appears. This starts the Windows Explorer.
4. Double-click **QIBM -> ProdData -> Access -> Windows -> Install -> Image -> Setup.exe** to start the setup program.

   Note: If the system administrator creates his own share point (directory shareable by remote users) to the Image directory, you will **not** be able to install SSL, add-ins, plug-ins, and secondary languages that are installed on the iSeries server during the iSeries Access for Windows installation. See the online help and Information Center for more information on SSL, add-ins, and plug-ins.
   This starts the installation wizard. Step through the wizard and choose which kind of installation you want and where you want to store iSeries Access for Windows.

Installing iSeries Access for Windows from CD

To install iSeries Access for Windows from the *iSeries Setup and Operations CD-ROM*, SK3T-4098-01, do the following:
1. Insert the CD-ROM in the optical device drive (for example, a CD-ROM drive).
2. If your optical device is set to automatically run programs, follow these steps:
   a. Click **Install iSeries Access for Windows (V5R2M0)**.
   b. Go to step 4.
3. If your optical device is **not** set to automatically run programs, follow these steps:
   a. Go to the root directory of the CD-ROM and double-click **launch.exe**.
   b. Click **Install iSeries Access for Windows (V5R2M0)**.
4. Once the iSeries Access for Windows setup program begins, follow the instructions and online help in the program.

Notes:

1. You cannot install Secure Sockets Layer (SSL) from the `iSeries Setup and Operations` CD-ROM. This is because the Client Encryption product required (5722-CE3) is not packaged on the `iSeries Setup and Operations` CD-ROM. To install SSL support on the PC, you must install from a server that has V5R2 5722-CE3 product installed.

2. You will not be able to install SSL, add-ins, plug-ins, and secondary languages that are installed on the iSeries server during iSeries Access for Windows installation. After the CD install completes, you can use Selective Setup to add these components. You can access Selective Setup by clicking **Start -> Programs -> IBM iSeries Access for Windows -> Selective Setup**. When Selective Setup is run, the appropriate iSeries directory is automatically specified.

3. If you want to configure an install source for automatic Service Pack and release upgrades, use the **Service** page of **iSeries Access for Windows Properties**.

   Note: If you are installing iSeries Access for Windows for the first time and you do not update the install source in iSeries Access for Windows Properties, CheckVersion will try to check the CD-ROM drive for service packs and upgrades. If you are upgrading iSeries Access for Windows and if CheckVersion is configured to check a certain directory, CheckVersion will check the directory and will not be changed to check the CD.

4. See the online help and Information Center for more information on SSL, add-ins, and plug-ins.

Installing iSeries Access for Windows from a Peer Server

If you do not have a file server but are in a LAN environment, you can install iSeries Access for Windows from the hard disk of one PC to all PCs on the LAN. To do this, you need to configure the PCs to enable the peer sharing feature of Windows, as described in the following sections.

Notes:

1. You cannot install SSL, add-ins, plug-ins, and secondary languages that are installed on the iSeries server during the peer server installation of iSeries Access for Windows. These products and features are not packaged with iSeries Access for Windows. After the installation completes, you can use Selective Setup to add these components. When Selective Setup is run, you must specify the appropriate directory. The default directory is the last directory that was used in install or selective install.

2. To get the SSL component, select the server that has 5722-CE3 product installed as your source directory during Selective Setup.

3. To get add-ins, plug-ins or secondary languages, select the server that has these components as your source directory during Selective Setup.

4. If you want to configure an install source for automatic Service Pack and release upgrades, use the **Service** page of **iSeries Access for Windows Properties** after the installation completes.

5. See the online help and Information Center for more information on SSL, add-ins, plug-ins and service.

Copy the iSeries Access for Windows Install Image to a server PC

To copy the iSeries Access for Windows install image to a server PC, you need to do the following:
1. Turn on file sharing on the PC. To turn on file sharing for your operating system, use the instructions that Microsoft provides.
2. Use the Tailored Install function described in the Information Center at the following location: **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration -> Installing or migrating on multiple PCs -> Creating a tailored installation**. Copy the files to the server directory where you want the install image stored.
3. Verify that your end users can access the server directory to install iSeries Access for Windows.

Install iSeries Access for Windows from Another PC

To install iSeries Access for Windows from a peer server, ensure that your PC is set up for peer connections:
1. From the Windows desktop, click **Start -> Settings -> Control Panel**.
2. Double-click **Network** from the Control Panel.
3. Select the **Identification** tab and enter a name for your PC and a workgroup (use the same workgroup name you have entered previously).
4. Click **OK** and restart your computer when prompted.

To install from a peer server:
1. From the Windows desktop, double-click the **Network Neighborhood** icon. A list of PCs that are in your workgroup will display.
2. Double-click on the PC that contains the iSeries Access for Windows install image. This will display any shared resources on that PC.
3. Double-click the drive where the iSeries Access for Windows install image is located.
4. Double-click **setup.exe** to begin the iSeries Access for Windows setup program.

Selective Setup

If you have iSeries Access for Windows installed on your PC and want to install an additional component of iSeries Access for Windows, you can use Selective Setup. Selective Setup allows you to install or remove individual components of iSeries Access for Windows. To start Selective Setup:
1. From the Windows desktop, click **Start -> Programs -> IBM iSeries Access for Windows -> Selective Setup**.
2. Follow the instructions and online help that are provided by Selective Setup

Upgrading iSeries Access for Windows

If you have iSeries Access for Windows installed and want to upgrade to a newer release, you should be aware of the following:
- iSeries Access for Windows no longer supports MAPI. This is a set of program interfaces used by mail applications, but are now becoming obsolete. Some customers may still use MAPI because it ties directly to the system directory (SDD) for storing user information. For those customers, it is recommended that they migrate from using SDD to using LDAP as a directory solution.

  Publishing directory information to LDAP can be accomplished through the use of iSeries Navigator. Right-click on the system name, choose "Properties", and go to the "Directory Services" tab. Here you can select the user information to

publish to the LDAP directory server. For details on publishing directory information to LDAP using iSeries Navigator, see the following Information Center location: **Networking -> TCP/IP -> Directory Services (LDAP) -> Administering the LDAP directory server -> Moving LDAP directory data between systems -> Publishing OS/400 information to the directory server**.

Publishing directory information to LDAP can also be accomplished through the use of a character based interface. For details on publishing directory information to LDAP using a character based interface, see the following Information Center location: **Programming -> CL and APIs -> APIs -> Alphabetical list of APIs**. From the alphabetical list, select **Synchronize System Distribution Directory to LDAP**.

For general information on LDAP and publishing, refer to the LDAP web site at:

`http://www.ibm.com/eserver/iseries/ldap`

- If the source you are using for your iSeries Access for Windows upgrade does not have a component you had installed in your previous release of iSeries Access for Windows, then the missing component(s) will be automatically uninstalled during an upgrade.
- If you are upgrading from V4R5 or V5R1 to V5R2 and you had the SSL Client Encryption CE1, CE2, or CE3 component installed on your PC, iSeries Access for Windows will automatically uninstall the component from your PC. It will also install the matching V5R2M0 component if it is available. Since CE1 and CE2 are no longer available in V5R2, it will be replaced with V5R2 CE3.

Chapter 10. Migrating to iSeries Access for Windows

iSeries Access for Windows includes a migration wizard that converts configuration information from a previous iSeries Access client into the format that is used by iSeries Access for Windows. You can migrate information from Client Access for Windows 95/NT (XD1), V3R1M3 and V3R2M0 only, to iSeries Access for Windows (XE1).

The migration wizard starts automatically after the iSeries Access for Windows setup program has completed and the computer has been restarted. You can choose to run the wizard or wait until later and start it by clicking on the Migration Wizard icon. The migration wizard looks for data from Client Access for Windows 95/NT.

Note:

- If the PC is used by different users that have individual user IDs on the PC, configuration information that is unique to each user will be migrated to iSeries Access for Windows.
- Migrating your clients to iSeries Access for Windows may affect the naming scheme that you should use for iSeries NetServer. See Chapter 6, "Configuring iSeries NetServer on the iSeries server" on page 23, for more information on iSeries NetServer naming.

Migrating from Client Access for Windows 95/NT

Client Access for Windows 95/NT (XD1) and iSeries Access for Windows cannot coexist on the same PC. If you are currently using Client Access for Windows 95/NT, the iSeries Access for Windows setup program will remove it before installing iSeries Access for Windows.

Note: iSeries Access for Windows will only migrate configuration information from V3R1M3 and V3R2M0 Client Access for Windows 95/NT.

The migration wizard gathers Client Access for Windows 95/NT configuration information and saves that information before Client Access for Windows 95/NT is uninstalled. The migration wizard creates a directory called CWBMI under the Windows directory. The iSeries Access for Windows install will not delete any of these configuration files since you may use them again if you decide to reinstall iSeries Access for Windows in the future. If you do not want these files on your PC, you will need to remove them manually after iSeries Access for Windows has been installed and the files have been migrated.

Read the following notes before you migrate to iSeries Access for Windows:

Notes:

1. Network drives are not available in iSeries Access for Windows. Therefore, you cannot migrate to iSeries Access for Windows over a Client Access network drives connection. Network drives will be uninstalled and will no longer exist in iSeries Access for Windows. In iSeries Access for Windows, network drives support is available only through iSeries NetServer.

   Network printers are also not available in iSeries Access for Windows. The Information Center provides more information on migrating network drives and printers to iSeries NetServer file and print shares. More information can be

found at the iSeries Information Center at the following location: **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration -> iSeries NetServer Administration.** From the iSeries NetServer Administration topic, take the link to **iSeries NetServer**, and then the link to **Get started with iSeries NetServer**.

2. Data transfer configuration information is not migrated with the migration wizard. Data transfer configuration information is migrated when used in iSeries Access for Windows.

3. All environments are migrated, but only TCP/IP connections are migrated.

4. The active environment becomes the active environment for iSeries Access for Windows.

5. The Async console is not supported in the iSeries Access for Windows product. You can use Operations Console in iSeries Access for Windows for console support. If you need Async console, you need to stay with Client Access for Windows 95/NT on the console PC.

6. The only type of PC console that OS/400 V5R2 supports is Operations Console. If the console for an iSeries server is currently an Async console, you must migrate to iSeries Access for Windows V5R2M0 and configure an Operations Console session before upgrading OS/400 to V5R2. For information on setting up and configuring Operations Console, see the Information Center under **iSeries Access -> iSeries Access for Windows -> Operations Console**.

7. If you had the following installed or configured on Client Access for Windows 95/NT and you chose to install them when you installed iSeries Access for Windows, they are migrated.
   - Environments and TCP/IP connections
   - Directory update
   - Password properties
   - Service pack properties
   - Language properties
   - Logging properties and tracing properties
   - iSeries Access desktop icons
   - iSeries Navigator
   - PC5250 Emulation
   - AFP Workbench Viewer
   - SDK for ActiveX and OLE DB
   - ODBC data sources

   Note: Since V5R1M0 several ODBC DSN options were removed and replaced with new options. Each option is associated with a keyword. For example, in V4R5 there were keywords named SCROLLABLE and RECBLOCK, and then since V5R1M0 the ODBC driver maps these keywords to new keywords as follows:

   ```
   SCROLLABLE     BLOCKFETCH
      0            1 (ON)
      1            0 (OFF)

   RECBLOCK       CONCURRENCY
      0            1 (ON)
      1            0 (OFF)
      2            0 (OFF)
   ```

   This applies not only when you are configuring a pre-V5R1 ODBC DSN through ODBC Administrator, but also when you are attempting to make a connection through ODBC. It is recommended that pre-V5R1 ODBC DSNs are configured once before being used to ensure that this mapping of keywords matches what is desired.

For the SEARCHPATTERN keyword, if this was set to 1 (ON) in V4R5, then an underscore was treated as a wildcard search pattern. Since V5R1M0 the meaning of this keyword changes slightly. The keyword now controls the default behavior for the connection attribute SQL_ATTR_METADATA_ID. When making an ODBC connection, the driver calculates the default value for SQL_ATTR_METADATA_ID as follows:

```
SEARCHPATTERN  Value for SQL_ATTR_METADATA_ID
     0              SQL_TRUE
     1              SQL_FALSE
```

8. If you are not using a domain name server and you are going to configure additional iSeries servers, you need to update the HOSTS file on every PC that will be connecting to one or more of these iSeries servers. To do this, see "TCP/IP configuration on the PC - Updating the HOSTS file" on page 73.

To migrate from Client Access for Windows 95/NT, start the iSeries Access for Windows setup program as described in Chapter 9, "Installing iSeries Access for Windows on the PC" on page 37. The iSeries Access for Windows setup program does the following:
- Gathers your configuration information for Client Access for Windows 95/NT and saves it
- Removes Client Access for Windows 95/NT
- Reboots the PC and automatically restarts after the reboot
- Installs iSeries Access for Windows
- Starts the Migration wizard

The migration wizard will then step you through the steps necessary to migrate from Client Access for Windows 95/NT.

See Chapter 11, "Using iSeries Access for Windows" on page 49 for information on how to use iSeries Access for Windows and for differences between Client Access for Windows 95/NT and iSeries Access for Windows. For information on migrating from Client Access for Windows 95/NT to iSeries Access for Windows while upgrading to Windows 2000, see "Migrating to another Windows operating system" on page 73.

Part 4. Using iSeries Access for Windows

Chapter 11. Using iSeries Access for Windows

You can find information on using iSeries Access for Windows in the **User's Guide**, an online help system available with iSeries Access for Windows. To open the User's Guide:

- From the Windows desktop, click **Start -> Programs -> IBM iSeries Access for Windows -> User's Guide**.

If you do not have the User's Guide installed, you can install it through Selective Setup.

Differences between Client Access for Windows 95/NT client and iSeries Access for Windows

iSeries Access for Windows has simplified many functions of the previous clients, such as installing, configuring, and managing your system connections.

Install iSeries Access for Windows has been improved to give administrators more control over what end users may install. iSeries Access for Windows provides both required programs that must be installed and optionally installable components that facilitate and enhance your PC-to-iSeries server interaction.

When a service pack PTF is applied on the server, the original iSeries Access for Windows installation image is updated. Any client that installs from this updated installation image gets the new iSeries Access for Windows release plus the service pack level at the same time.

iSeries connections

Configuration of connections to iSeries servers is easier now using iSeries Access for Windows. iSeries Access for Windows uses TCP/IP to connect to the iSeries server. Since iSeries Access for Windows uses only TCP/IP, the AS/400 Connections program used by AS/400 Client Access for Windows 95/NT is no longer needed. Instead, you can specify the iSeries server to connect to when you run an iSeries Access for Windows application. iSeries Access for Windows maintains a list of iSeries servers that you recently connected to, called the system list.

Note: You can manage your system list through iSeries Navigator. In fact, the default configuration parameters for each configured iSeries server can only be managed through iSeries Navigator. An iSeries Navigator icon and enough of the iSeries Navigator function necessary to manage your connections will be installed, even if iSeries Navigator component is not installed.

Access to network drives and network printers

iSeries NetServer is available with OS/400 V4R2 and later and provides support for file and print serving. Previous clients, such as Client Access for Windows 95/NT, included file and print serving within the client, though not without a price. Utilizing the capabilities of iSeries NetServer allows for several advantages. They include a smaller PC client footprint and the elimination of background tasks and daemons. Using iSeries NetServer allows iSeries Access for Windows to take advantage of the file and print sharing capabilities of Windows operating systems. You need to

set up the iSeries NetServer that comes with your V4R2 or later level of OS/400 to perform file and print serving to the iSeries server. For further information, see Chapter 8, "Configuring your PC for iSeries NetServer Use" on page 33.

Secure Sockets Layer (SSL)
iSeries Access for Windows includes optionally installable support for Secure Sockets Layer (SSL). SSL is a popular security scheme that allows the PC client to authenticate the server and encrypts all data and requests to the iSeries server.

iSeries Desktop Icon wizard
You can create a desktop icon that will launch an application, such as iSeries Navigator or PC5250, to provide easy connection to the iSeries server you specify. A step-by-step iSeries Desktop Icon wizard is provided to guide you through the creation of the icon. Once created, you can change the icons properties. For example, you can change the application you would like the icon to launch.

Logging and tracing
A utility, Diagnostic Tools, provides a unified interface for starting, stopping, displaying, and working with the properties of the History log, Detail trace, and Entry point trace. When started, this utility is placed in the Windows system tray in the lower right corner of the desktop. Unlike previous clients, iSeries Access for Windows does not automatically start History logging. You must start them manually using the Diagnostic Tools utility. The log and trace files are stored by default beneath the My Documents folder of each user.

16-bit applications
iSeries Access for Windows does not support 16-bit applications.

To see what is new in V5R2 for iSeries Access for Windows, see the Welcome Wizard. The Welcome Wizard is available after installation in the iSeries Access for Windows folder by clicking **Start -> Programs -> IBM iSeries Access for Windows -> Welcome Wizard**. It also starts automatically after the installation of iSeries Access for Windows.

Chapter 12. Using iSeries Access for Windows with Facsimile Support for iSeries

iSeries Access for Windows provides the IBM AFP printer driver, which allows you to fax documents from your personal computer applications when used with Facsimile Support for iSeries. This fax support allows you to send documents to remote fax devices.

The following steps summarize the tasks you need to do to set up iSeries Access for Windows for faxing personal computer documents:
1. Create a fax printer device description on the iSeries server.
2. Set up a network printer on the workstation.

For information about how to use or install the Facsimile Support for iSeries product, refer to the following publications in the V4R2 Online Library:
* *Facsimile Support for AS/400 Installation Guide*, SC41-0654.
* *Facsimile Support for AS/400 User's Guide*, SC41-0655

Note: These publications are no longer being updated.

Create a Fax Printer Device Description on the iSeries server

1. Type STRFAXSPT at the iSeries command prompt and press the F4 Prompt key to display the parameters for the STRFAXSPT command.
2. Specify a fax description. This can be a fax description you previously configured.
3. Specify *YES for the Enhanced services (EHNSRV) parameter.
4. Press Enter.

This starts the Enhanced Services and creates the QFQFS4PRTD printer device, which is required for faxing personal computer documents. The QFQFAXSRV job is started in the QFQSBS subsystem and processes the personal computer documents as they are received on the QFQFS4PRTD output queue.

The printer share that is set up for Facsimile Support must be configured to use the output queue QFQFS4PRTD and a spooled file type of Advanced Function Printing™. For information on creating a printer share, see the online User's Guide.

Set up a network printer on the iSeries Access for Windows PC

To set up a network printer, you must have a connection to an iSeries server.
1. From the Windows desktop, click **Start -> Find -> Computer**.
2. Enter the iSeries NetServer server name and click the Find Now button. If iSeries NetServer is not found, you may need to start iSeries NetServer on the iSeries server.
3. Double-click the iSeries NetServer name in the list below. A dialog will appear with currently configured iSeries NetServer file and print shares. If no print shares are listed, you may need to configure one.

   Note: You can configure a print share from the Printers in iSeries Navigator. Right click the printer (this assumes a printer has been configured on the

iSeries server) and select **Sharing**. This brings up the iSeries NetServer print share dialog box where you can specify the share name, description, printer file, etc.

4. Right click the printer share you wish to use, click Install, then follow the online instructions.

   Note: When presented with the **Add Printer Wizard** and asked to select the manufacturer and model of your printer, choose **IBM** as the manufacturer and **IBM AFP Facsimile Support/400** as the printer.

5. For more information, visit the iSeries Information Center at the following location: **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration -> iSeries NetServer Administration**. From the iSeries NetServer Administration topic, take the link to **iSeries NetServer**, and then the link to **Get started with iSeries NetServer**.

Part 5. Appendixes

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Appendix A. Sources of Information for iSeries Access for Windows

There are several places you can find additional information about iSeries Access for Windows.

Information Authorized Program Analysis Report (Information APAR) and PTFs

An **Information Authorized Program Analysis Report (Info APAR)** is an electronic document that is used to communicate information not found in publications, the online User's Guide, critical fix information, or other sources.

Information APARs for iSeries Access for Windows are available on the Internet or from the IBM fax information service. If you have Internet access, you can view the index to iSeries Access for Windows Information APARs at:

`www.ibm.com/eserver/iseries/access/caiixe1.htm`

Program temporary fixes (PTFs) are available to ensure that you have the latest program fixes for OS/400 and iSeries Access for Windows.

You can also get the APARs and PTFs for iSeries Access for Windows by using the Electronic Customer Support feature on your iSeries server. You need to have Electronic Customer Support configured and operational.

You can order informational APARs just like a PTF. You will receive a cover letter that contains all of the information in the APAR, however, no code or 'fix' comes with it.

To order an Information APAR, use the following OS/400 command:

`SNDPTFORD PTFID(IIxxxxx)`

where IIxxxxx is the APAR number.

After you loaded the APAR on the iSeries server, display or print it using the following:

`DSPPTF LICPGM(INFOAS4)`

For example, to see iSeries Access for Windows information APAR II11853, use the following command:

`DSPPTF LICPGM(INFOAS4)`

Look for II11853. When you find it, use Option 5 to display.

Using the `SNDPTFORD` command requires Electronic Customer Support to be enabled on your iSeries server. If electronic customer support is not enabled, order the Information APAR the way that you normally get PTFs.

If you are not sure if an APAR is on your iSeries server, use the following to display all APARs:
1. Start Programming Development Manager (STRPDM)

2. Work with Members
3. File(QAPZCOVER), Library(QGPL), Name and Type(*ALL)

iSeries Access for Windows Information on the Web

IBM has a wealth of information on the Internet. The iSeries Information Center contains many articles about the iSeries server, including iSeries Access for Windows administrating and programming information. It also contains links to the Information Center: Supplemental Manuals site (replaces the Online Library site) and the IBM home page. The Information Center can be accessed at:

`www.ibm.com/eserver/iseries/infocenter`

In addition, you can access information on the World Wide Web (WWW) from the iSeries Access for Windows folder. This folder is available after you install iSeries Access for Windows. Click the **Internet Information** icon. Other places you may want to get information from are listed in the following table, along with their web page addresses.

Table 8. Web Page Addresses Related to iSeries Access for Windows

Web Page Address	Title
www.ibm.com	IBM Home Page
www.ibm.com/eserver/iseries	IBM iSeries Home Page
www.ibm.com/eserver/iseries/access/	IBM iSeries Access Home Page
www.ibm.com/eserver/iseries/navigator/	IBM iSeries Navigator Home Page
www.ibm.com/eserver/iseries/netserver	IBM iSeries NetServer Home Page
www.pc.ibm.com	IBM Personal Computers Home Page
www.ibm.com/software	IBM Software Home Page
www.ibm.com/eserver/iseries/support/	IBM Technical Support Home Page
www.networking.ibm.com	IBM Networking Home Page
www.networking.ibm.com/525	IBM Headquarters for 5250 Emulation Software and Hardware
www.ibm.com/software/network/pcomm/	IBM Personal Communications
www.redbooks.ibm.com	IBM Redbooks Home Page

iSeries Access for Windows ReadMe File

The iSeries Access for Windows ReadMe file (README.TXT) is on the CD-ROM and in the iSeries Access for Windows folder on your desktop after you install iSeries Access for Windows. The ReadMe file contains important information or technical changes to the product that were too late to include in the documentation.

README.TXT is also in the iSeries Access for Windows install image on the iSeries server and you can view it there prior to installation. The latest information related to problems, restrictions, and considerations that may be identified after this ReadMe document is published, can be found at:

`www.ibm.com/eserver/iseries/access/v5r2.htm`

User's Guide

After installing iSeries Access for Windows, you have a valuable resource at your fingertips called the online **User's Guide**. This guide helps you find and correct problems and contains how-to procedures. Use the index in the guide to search for a specific topic. The User's Guide walks you through many complex situations and helps you solve most problems.

Note: You may not have the User's Guide installed if you performed a custom or 5250 User install of iSeries Access for Windows. You can install the User's Guide through Selective Setup.

Related Information

You may need to refer to other IBM books or the Information Center for more specific information about a particular topic.

Books:
- *Communications Configuration*, SC41-5401-00
- *Remote Work Station Support*, SC41-5402-00
- *Software Installation*, SC41-5120-06
- *iSeries Security Reference*, SC41-5302-06
- *Getting Your AS/400 Working For You*, SC41-5161
- These redbooks:
  - *AS/400 Client Access Express for Windows: Implementing V4R4M0*, SG24-5191
  - *The AS/400 Netserver Advantage*, SG24-5196
  - *AS/400 Printing IV*, GG24–4389
  - *Managing AS/400 with Operations Navigator*, SG24-5646

Notes:

1. You can view these books at this Web site:

   http://publib.boulder.ibm.com/

   under either **Online Library** or **Information Center -> Supplemental Manuals**.

2. For an additional list of iSeries Access and related books, see the following Web site:

   www.ibm.com/eserver/iseries/access/calib.htm

Information Center:
- TCP/IP topic located under Networking
- Systems Management topic
- Host server administration topic located under **Connecting to the iSeries -> What to connect with -> iSeries Access -> iSeries Access for Windows -> Administration**

Appendix B. PC5250 Information

Hindi Support

Reviewing supported platforms

Hindi sessions run on Windows NT and Windows 2000 operating systems. If you are using Windows 2000, select the Indic language group while installing Windows 2000. After installation, you can also change the language group to Indic:

1. Select **Settings -> Control Panel -> Regional Options -> General**.
2. Select Indic for the Language settings for the system field.
3. Reboot the system.

Installing Hindi fonts

In order to use the Hindi support, the Hindi Fonts must be installed. To install the Hindi fonts, use the iSeries Access for Windows Custom install or Selective install. On the component selection dialog:

1. Click **5250 Display and Emulator -> Standard PC5250 -> PC5250 Fonts**
2. Check Hindi Fonts

Configuring a PC5250 session for Hindi support

From the PC5250 window menu bar:

1. Click **Communication -> Configure**.
2. Click the **Host Code-Page** arrow and select 1137 Hindi.

To enable Hindi keyboard:

1. Click **Edit -> Preferences -> Keyboard**
2. Select India-Hindi for the **Keyboard Layout**.

Keyboard Layout

The Hindi keyboard layout supports both Hindi and English keyboard layers. The Keyboard layout contains 5 Vedic overlay characters. These characters have to be entered using the following key combinations:

1. U0000950 = Alt + Control + /
2. U0000951 = Alt + Control + f
3. U0000952 = Alt + Control + d
4. U000093D = Alt + Control + .(dot)
5. U0000970 = Alt + Control + ,(comma)

The keyboard layout contains some characters that are not defined in the Host code page 1137. Those characters are as follows:

- U0000931
- U0000929
- U0000934
- U000095f
- U0FC000A
- U0FC000B
- U0FC000C
- U0FC000D
- U0FC000E
- U0FC000F

These characters when entered are replaced by a sequence of Unicode characters (that are present in the host code page) which combine to form these characters.

Switching between Hindi and English Keyboard

For Windows NT, press Alt + Shift to switch between the Hindi and English keyboard layers. For Windows 2000, the toggling between keyboard layers depends on the Windows 2000 settings. If the key sequence of Alt + left Shift is set for switching between keyboard layers, then only this key sequence can be used for toggling. For Windows NT, the default keyboard layer is Hindi, and for Windows 2000 the default layer is English. The selection of the Hindi layer is indicated by displaying HI on the Operator Information Area (OIA) for both operating systems. The selection of the English layer is indicated by displaying E on the OIA for Windows NT. However, for Windows 2000, when the user switches from the Hindi layer nothing is displayed.

Hindi Keyboard Customization

In the Keyboard Customization dialog, the keyboard layout that is displayed will have Latin characters inscribed over the buttons. When a button is selected, the edit control window displays the Hindi character corresponding to that selected key. You can change the mapping by selecting a new character from the list box. If you attempt to directly edit the edit control window, the characters from the current character set of input locale will appear.

Restrictions for customizing Hindi layer keys that map to more than one character are as follows:

Table 9.

Key	Characters that cannot be assigned
Shift + 3	#
Shift + 4	$
Shift + 5	%
Shift + 6	^
Shift + 7	&
Shift + 8	*

The character that is mapped by default to Shift + 3 is a composed character. It is composed of – 0x094D + 0x0930. Similarly the other keys mentioned in the table are also composed of one or more Unicode points.

Consider the following keyboard customization scenario:

Key Shift + 3 is copied to the key 's'. When this customized file is used and you press s, # will be displayed, but if you press Shift + 3, the composed character of -0x094D and +0x0930 will be displayed.

The customized key map file can be used only when the keyboard layer is Hindi (HI displays in OIA).

Cut, Copy and Paste functions

The selection for copy and cut will be adjusted to the cluster (meaningful Hindi composed character). For more information on Hindi clusters, see "Understanding Hindi clusters" on page 61

Cut, copy and paste are supported in Hindi sessions. Copy Link is not supported in Hindi sessions.

In Hindi session, data is copied into clipboard in the Unicode Text and WK3 formats. Data is not copied into clipboard in Sylk and Biff3 formats since these formats do not support unicode. While pasting data copied from PC5250 to Lotus 1-2-3®, WK3 format should be selected using the Paste Special option under the Edit menu because Lotus 1-2-3 does not support Unicode Text format. In the case of other applications like Microsoft Excel, data is pasted in Unicode Text format.

The characters from the Extended Latin Character Set range (0x80 to 0xff) cannot be used to draw table boundaries because in the case of Hindi, the EBCDIC code page does not contain these characters.

Record and Play Macro

The Hindi enablement in this module is limited to MACRO Scripts only. VB Scripts are disabled in a Hindi session. Customization of the Macro file is also disabled in the Hindi session.

In the record & play macro module, .MAC file is used for storing whatever actions the user performs. In case of a Unicode session, only the text string will be stored in Unicode. Type and value indicators are stored as single byte values as in the case of SBCS. Therefore, a Unicode macro file is not readable in editors, such as Notepad, since it is a mixture of single byte and Unicode characters.

Printing

A Hindi True Type font file is required to print the characters in Hindi. This true type font file is Devanagari MT Narrow. It is enumerated by PC5250 and is displayed under File --> Page Setup. This font file has to be selected for printing the characters in Hindi.

Print Session

Print sessions will not be supported when the user session is Hindi.

Understanding Hindi clusters

Two or more individual characters in Hindi can combine to form or compose a cluster. The number of characters in a cluster varies. A **cluster** is a syllable and a **character** refers to one Unicode code point (or one EBCDIC code point).

To find the number of characters in a cluster, Unicode Ligation and ISCII rules are used. You can find the Unicode Ligation rules defined by the Unicode Consortium in the book *The Unicode Standard Version 3.0* by the Unicode Consortium, published by Addison Wesley Publishing Company.

Other than the Unicode rules, Indian Script Code for Information Interchange (ISCII) rules also identify a Cluster. The ISCII rules are as follows:
1. Letter I(\u0907) + Nukta(\u093C) forms Letter Vocalic L(\u090C)
2. Vowel Sign Vocalic R(\u0943) + Sign Nukta(\u093c) forms Vowel Sign Vocalic Rr(\u0944)
3. Candrabindu(\u0901) + Sign Nukta(\u093c) forms Om(\u0950)
4. Letter Vocalic R(\u090b) + Sign Nukta(\u093c) forms Letter Vocalic Rr(\u0960)
5. Letter Ii(\u0908) + Sign Nukta(\u093c) forms Letter Vocalic LI(\u0961)

6. Vowel Sign I(\u093f) + Sign Nukta(\u093c) forms Vowel Sign VocalicL(\u0962)
7. Vowel Sign Ii(\u0940) + Sign Nukta(\u093c) forms Vowel Sign Vocalic LI(\u0963)
8. Danda(\u0964) + Danda(\u0964) forms Double Danda(\u0965)
9. Consonant+Halant(\u094d)+Halant(\u094d)+Consonant forms Consonant + Halant(\u094d) + ZWNJ + Consonant
10. Consonant+Halant(\u094d)+Nukta(\u093c)+Consonant forms Consonant + Halant(\u094d) + ZWJ + Consonant

Cursor Positioning and Mouse Clicking

Hindi support has implemented 2 cursors - underscore cursor and block cursor. The underscore cursor is of variable width and indicates the cluster position on screen. The block cursor is of fixed width and indicates the position of the first code point of the corresponding cluster in the PS buffer.

In insert mode, the insert cursor is of variable width and indicates the cluster position on screen. In this mode, the underscore cursor is of fixed width and indicates the position of the first code point of the corresponding cluster in the PS buffer.

When the cursor shape is changed to Block (Edit-->Preferences-->Appearance-->Display Setup), the block cursor is of variable width and indicates the cluster position on screen. Also, the underscore cursor is of fixed width and indicates the position of the first code point of the corresponding cluster in the PS buffer.

When mouse clicking, the underscore cursor is positioned below the cluster where the mouse is clicked and the block cursor is positioned correspondingly.

Understanding the behavior of the arrow, Backspace, Delete and Insert keys

The arrow, Backspace, Delete, and Insert keys have some special behaviors in Hindi sessions because of the formation of clusters.

Right Arrow key

Cursor is moved to the cluster which is to the right of the cluster on which the cursor is positioned.

Left Arrow Key

Cursor is moved to the cluster which is to the left of the cluster on which the cursor is positioned.

Backspace

Character which is previous to the cursor is deleted. For example, type three characters: Devanagari letter KA, Devanagari sign Virama, and Devanagari letter SSHA. These three characters form a single cluster Devanagari letter K.SSHA. Place the cursor after the cluster and press the backspace key once to delete the Devanagari letter SSHA, not the entire cluster.

Delete

Cluster under which the cursor is positioned is deleted. The following examples illustrate the deletion:

- Example 1: Enter the Devanagari letter KA followed by the Devanagari vowel sign I. The glyph corresponding to Devanagari vowel sign I is displayed before the glyph corresponding to Devanagari Letter KA. Position the cursor at this cluster. When you press the Delete key, the entire cluster formed by the combination of Devanagari vowel sign I and Devanagari letter KA is deleted from the screen.
- Example 2: Type three characters: Devanagari letter KA, Devanagari sign Virama, and Devanagari letter SSHA. These three characters form a single cluster Devanagari letter K.SSHA. Position the cursor at this cluster. When you press the Delete key, the entire cluster K.SSHA is deleted.

Insert

The Insert key enables inserting characters between clusters but not within clusters. Overwriting is allowed only at the first character of the cluster. For example, type three characters: Devanagari letter KA, Devanagari sign Virama, and Devanagari letter SSHA. These three characters form a single glyph Devanagari letter K.SSHA. You can either insert characters before the entire Devanagari cluster K.SSHA or after it, but you cannot insert characters within the cluster.

Lao Support

Installation of Fonts

iSeries Access for Windows installs the correct PC5250 fonts based on the ANSI code page of the PC. At the time of this writing, there is no Lao version of Windows. The ANSI code page is not set to Lao and the Lao fonts are not installed during a typical install.

To install the Lao fonts, use the iSeries Access for Windows Custom install or Selective install. On the component selection dialog, click **5250 Display and Emulator -> Standard PC5250 -> PC5250 Fonts** and check Lao Fonts.

After the install is complete, you MUST change a variable in the **win.ini** file that is located in your Windows directory. Edit the file, find sCountry and change sCountry = United States to sCountry = Laos.

Configuring a PC5250 session for Lao Support

From the PC5250 window menu bar:
1. Click **Communication -> Configure**.
2. Click the **Host Code-Page** arrow and select 1132 Lao.

To enable Lao keyboard:
1. Click **Edit -> Preferences -> Keyboard...**.
2. Select Lao for the **Keyboard Layout**.

Lao Display Mode Selection (Lao only)

From the PC5250 window menu bar:
1. Click **Edit -> Preferences**.
2. Select the **Appearance** pull-down menu while in the emulator session.
3. Select **Lao Compose Mode...**.

Switching between Lao and Latin Keyboard

Press either Alt+left shift or Alt+right shift to toggle between the Lao and Latin
Keyboards.

Language Shift Status

The language shift indicator is shown in the status line of each emulator session. If
the keyboard is in Lao language shift, the indicator 'Lao' is shown in the status
line.

Lao Display Composed mode

Mode 1

Non-compose mode

There is no character composing in this mode.

Mode 2

Composed Mode

Lao character is auto composed in this mode. No column realignment is
performed.

Mode 3

Composed with space alignment

During this mode of composing, column realignment is also performed by
three consecutive spaces. When the composing routine finds three
consecutive spaces, column realignment occurs. So, if all fields have at least
three trailing spaces, then all fields of all records are properly aligned.

Mode 4

Composed with EOF alignment

During this mode of composing, column realignment is also performed by
the EOF character (Hexadecimal 'EA'). When the composing routine finds
a single EOF, it deletes this character and performs column realignment. If
two consecutive EOFs are found, no realignment occurs; one EOF is
deleted and one is treated as data.

Mode 5

Composed with space and EOF alignment

This mode of composing performs the column realignment functions of
both Mode 3 and Mode 4.

Lao-Scaleable (Truetype) Font for Printing

PC5250 provides a Lao Truetype font (Khamla).

To print Lao characters, you have to install the Lao scaleable (Truetype) font. See
"Installation of Fonts" on page 63.

Print Space Adjustment

If any printer needs space adjustment for Lao printing, add the following
statement to the PCSWIN.INI in the PRIVATE directory:

```
[Lao]
PrintAdjust=x
```

The value of x can be:

0 = no adjustment (same as no PrintAdjust statement)

1 = Perform adjustment when find three consecutive spaces

2 = Perform adjustment when find EOF character

3 = Perform adjustment when find three consecutive spaces or EOF character (1 and 2 combined)

Configuring PC5250 for Thai (Thai only)

1. Click **Communication -> Configure**.
2. Click the **Host Code-Page** arrow and select 838 Thai.
3. To enable Thai keyboard input (while you are in a PC5250 session):
1. Click **Edit -> Preferences -> Keyboard...**.
2. Select Thai for the **Keyboard Layout**.

Note: Thai features are enabled when iSeries Access runs on Windows 98/Me only and these Thai settings are the defaults.

Thai Display Mode Selection (Thai only)

Click **Edit -> Preferences -> Thai Compose Mode...**.

Switching between Thai and Latin Keyboard

Press either Alt+left shift or Alt+right shift to toggle between the Thai and Latin Keyboards.

Language Shift Status (Thai only)

The language shift indicator is shown in the status line of each emulator session. If the keyboard is in Thai language shift, the indicator 'TH' is shown in the status line.

Thai Display Composed mode (Thai only)

Mode 1

Non-compose mode

There is no character composing in this mode.

Mode 2

Composed Mode

Thai character is auto that is composed in this mode. No column realignment is performed.

Mode 3

Composed with space alignment

During this mode of composing, column realignment is also performed by three consecutive spaces. When the composing routine finds three consecutive spaces, column realignment occurs. So, if all fields have at least three trailing spaces, then all fields of all records are properly aligned.

Mode 4

Composed with EOF alignment

During this mode of composing, column realignment is also performed by the EOF character (Hexadecimal 'EA'). When the composing routine finds a single EOF, it deletes this character and performs column realignment. If two consecutive EOFs are found, no realignment occurs; one EOF is deleted and one is treated as data.

Mode 5

Composed with space and EOF alignment

This mode of composing performs the column realignment functions of both Mode 3 and Mode 4.

Bidirectional Arabic Support

Limitations

- The Bidirectional Text Assist component is not supported in the PC5250 iSeries component. As a result, the user cannot run Bidirectional OfficeVision/400™.
- If running under Arabic Windows, COPYLINK component produces unexpected results with Arabic letters.

Installation Tips

- After PC5250 is installed, please follow the steps that are defined in the online User's Guide to install the Arabic font file PCSANSIA.FON. This can be found under the heading of **Special Fonts for PC5250**.
- To set up an Arabic WorkStation, verify that you have fulfilled the following definitions:
  - Click **Communication -> Configure**.
  - Click the **Host Code-Page** arrow and select 420 Arabic Speaking.
  - Click **Edit -> Preferences -> Keyboard...**.
  - Select **Hebrew** (Bulletin Code or Old Code) as the **Keyboard Layout**.
  - Click **Edit -> Preferences -> Appearance -> Font...**. Select **Font Size** from the **Appearance** pull-down menu. Select **ARB3270** at the **Automatic Sizing** list box or at the **Fixed size** font selection. This ensures that the active font for display is the Arabic font.
  - Click **Edit -> Preferences -> API...**. Select **864** as the **DDE/EHLLAPI PC Code-Page**.

Bidirectional Keyboard Components

This section describes the keys and components that are unique to Bidirectional PC5250 support.

The keys unique to Bidirectional PC5250 support are:
- Language selection

  This component is activated by the key combination **ALT + SHIFT**.

  This component allows changing the language layer. If the language layer is Latin, by pressing **ALT + RightShift** key combination the language layer will change to Arabic. If the language layer is Arabic, by pressing **ALT + LeftShift** this key combination, the language layer will change to Latin.
- Screen Reverse

  This component is activated by the key combination **ALT + ENTER**.

  This component reverses the screen image. If the screen orientation is Left-to-Right, by pressing this key combination the screen image will be reversed to Right-to-Left. If the screen orientation is Right-to-Left, pressing this key combination the screen image is reversed to Left-to-Right.

  Note that the operator information area is not reversed by this operation.

  When the screen orientation is changed, the language layer is changed to the default language of the new screen orientation. If the screen is reversed to Right-to-Left, then the language is changed to Arabic. If the screen is reversed to Left-to-Right, then the language is changed to Latin.

The inversion of the screen causes directional characters to be replaced by their counterparts.

- Field Reverse

  This component is activated by the key combination **NumLock**.

  This component toggles the field orientation to either Left-to-Right or Right-to-Left. The text in the field is not inverted. The cursor orientation is set equal to the new field orientation, and the language layer is selected accordingly.

  If the cursor was in the first logical position of a field or line, when selecting field reverse component, the cursor skips to the other side of that field or line, which now becomes the first logical position. If the cursor was not in the first position of the field or line, when selecting field reverse component, the cursor remains in its position and allows natural and correct editing of existing text.

- Close

  This component is activated by the key combination **NumPad /**.

  This component is provided so that the data entered in one keying direction can be concatenated with the data that was previously entered in the opposite direction. It operates as follows:
  - All embedded Nulls are removed from the current line.
  - Concatenated text is moved to the right bound of the field (if the field direction is right-to-left) or to the left bound (if the field direction is left-to-right).
  - The cursor direction is set to the field direction
  - The language layer is set to the default for the field direction
  - If the cursor position is now Left-to-Right, the cursor is positioned at the first null to the right of the concatenated text.
  - If the cursor position is now Right-to-Left, the cursor is positioned at the first null to the left of the concatenated text.

- BASE

  This component is activated by the key combination ″CTRL + HOME″.

  The ″BASE″ key is a toggle key that activates or deactivates the Automatic Shape determination component for Arabic RTL text. It is valid only when processing RTL Arabic text. If it is pressed in an LTR field an operator error 0027 results.

Operator Information Area Indicators

In the Host session the bottom line of the screen is called the Operator Information Area (OIA). This line is always displayed from Left-to-Right. In the Arabic environment, the following symbols were added:
- Language Indicator:
  - Isolated **EIN** - Current language, Arabic
  - E - Current language, English
- Screen Direction:
  - S> - Left-to-Right screen direction
  - <S - Right-to-Left screen direction
- Typing Direction
  - => - Left-to-Right direction
  - <= - Right-to-Left direction
- Arabic Character Shape Mode:
  - The character **Alef-Madda**: indicates CSD mode.
  - Isolated **GHEIN**: indicates Base or Isolated Shaping Mode.

Bidirectional Hebrew Support

Limitations

- If running under Hebrew Windows, cut & paste with Windows applications might produce unexpected results.
- The Keyboard re-map function that is available for the Windows-mode product - supports re-mapping of Hebrew and Bi-Directional components only for the data keys (The 61 keys which are located on the main part of the enhanced keyboard).

Installation Tips

- After PC5250 is installed, please follow the steps defined in the online User's Guide to install the Hebrew font file PCSANSIH.FON. This can be found under the heading of **Special Fonts for PC5250**.
- To setup a Hebrew WorkStation, verify that you have fulfilled the following definitions:
  - Click **Communication -> Configure**.
  - Click the **Host Code-Page** arrow and select 424 Hebrew.
  - Click **Edit -> Preferences -> Keyboard...**.
  - Select **Hebrew** (Bulletin Code or Old Code) as the **Keyboard Layout**.
  - Click **Edit -> Preferences -> Appearance -> Font...**. Select **HEB3270**at the **Automatic Sizing** list box or at the **Fixed size** font selection. This ensures that the active font for display is the Hebrew font.
  - Click **Edit -> Preferences -> API...**. Select **862** or **916** as the **DDE/EHLLAPI PC Code-Page**.
  -

Bidirectional Keyboard Components

This section describes the keys and components that are unique to Bidirectional PC5250 support.

The keys unique to Bidirectional PC5250 support are:

- Language selection

  This component is activated by the key combination **ALT + SHIFT**.

  This component allows changing the language layer. If the language layer is Latin, by pressing **ALT + RightShift** key combination the language layer will change to Hebrew. If the language layer is Hebrew, by pressing **ALT + LeftShift** key combination, the language layer will change to Latin.
- Screen Reverse

  This component is activated by the key combination **ALT + ENTER**.

  This component reverses the screen image. If the screen orientation is Left-to-Right, pressing this key combination, the screen image is reversed to Right-to-Left. If the screen orientation is Right-to-Left, pressing this key combination, the screen image is reversed to Left-to-Right.

  Note: The operator information area is not reversed by this operation. When the screen orientation is changed, the language layer is changed to the default language of the new screen orientation. If the screen is reversed to Right-to-Left, then the language is changed to Hebrew. If the screen is reversed to Left-to-Right, then the language is changed to Latin.
- Field Reverse

  This component is activated by the key combination **Numlock**.

This component toggles the field orientation to either Left-to-Right or Right-to-Left. The text in the field is not inverted. The cursor orientation is set equal to the new field orientation, and the language layer is selected accordingly.

If the cursor was in the first logical position of a field or line, when selecting field reverse component, the cursor skips to the other side of that field or line. The other side now becomes the first logical position. If the cursor was not in the first position of the field or line, when selecting field reverse component, the cursor remains in its position. This allows natural and correct editing of existing text.

- Close

This component is activated by the key combination **NumPad /**.

This component is provided so that the data entered in one keying direction can be concatenated with the data that was previously entered in the opposite direction. It operates as follows:
  - All embedded null characters are removed from the current line (or field, if the field is contained on one line).
  - Joined text is moved to the RIGHT bound of the field if the field direction is RIGHT-TO-LEFT. It is moved to the LEFT bound is the field direction is LEFT-TO-RIGHT.
  - The remainder of the line (or the field, if contained on the same line) is padded with the NULL characters.
  - The cursor direction is set to the field direction.
  - If the cursor direction is now LEFT-TO-RIGHT, the cursor is positioned at the first NULL character to RIGHT of the joined text. If the cursor direction is now RIGHT-TO-LEFT, the cursor is positioned at the first NULL character to LEFT of the joined text.
  - Insert mode is reset.

Operator Information Area Indicators

In the Host session the bottom line of the screen is called the Operator Information Area (OIA). This line is always displayed from Left to-Right. In the Hebrew environment, the following symbols were added:
- Language Indicator:
  - H - Current language, Hebrew
  - E - Current language, English
- Screen Direction:
  - S> - Left-to-Right screen direction
  - <S - Right-to-Left screen direction
- Typing Direction
  - => - Left-to-Right direction
  - <= - Right-to-Left direction

Appendix C. Problems and Problem Reporting

Technical Support

See the following sources for known problems:
- Technical Support Web Site

  `www.ibm.com/eserver/iseries/support/`
- APARs and Information APARs

  `http://as400service.rochester.ibm.com/n_dir/nas4apar.nsf/nas4aparhome`
- Support Line Knowledge Base

  `http://as400service.rochester.ibm.com/supporthome.nsf/Document/10000051`
- iSeries Access Information APARs (known problems and support statements)

  `www.ibm.com/eserver/iseries/clientaccess/caiiapar.htm`
- iSeries Access for Windows Frequently Asked Questions (marketing, strategy, ordering, support, links to forums, etc.)

  `www.ibm.com/eserver/iseries/access/cafaq.htm`

For other sources of information for iSeries Access for Windows, see Appendix A, "Sources of Information for iSeries Access for Windows" on page 55.

Overlaid Icons

After you install iSeries Access for Windows on your PC, it may look like some of the components were not installed because some icons seem to be missing. These icons are actually overlaying each other. To fix this:
- Open the folder that has the problem.
- Press the right mouse button.
- Select the `Arrange Icons` option.

The icons are arranged and you can now see all of them.

Dial-Up Networking Prompt

If you see a Dial-Up Networking unwanted prompt, one of the following may apply to you. Either you have Internet Access or you may need to make some changes to your Dial-Up Networking configuration to stop this.
- If you have Internet access:
  1. From the Windows desktop, click **Start -> Settings -> Control Panel**. You see the Control Panel folder.
  2. From the Control Panel folder, double-click on the Internet item. In the next panel, uncheck the box for the **Use Autodial** option.
- If Internet access is not your problem:
  1. You need to make some changes to the Dial-Up Networking settings.
     a. From the Windows desktop, click **Start -> Programs -> Accessories -> Dial-Up Networking**. You see the Dial-Up Networking folder.
     b. From the Dial-Up Networking folder, click **Connections**, then click on **Settings**. You see the Dial-Up Networking properties page.
     c. Click **Don't prompt to use Dial-Up Networking**.
     d. Click **OK** to save your change. Now if you want to use Dial-Up Networking, you have to manually start it.
  2. You also need to make a change to your Network configuration.

a. From the Windows desktop, click **Start -> Settings -> Control Panel**. You see the Control Panel folder.
b. From the Control Panel folder, double-click the **Network** icon. You see the Network property page.
c. You need to "bind" the Dial-Up Networking only to those protocols that you intend to use over the remote connection. Look for a TCP/IP protocol in your list. Click to select it, then click the **Properties** button.
d. Click the **Bindings** tab and make sure that Dial-Up Networking is only checked for the protocol you use for your Internet provider or external access.

To get full auto-dial support, you need to have Internet Explorer 2.x or higher installed. Within the properties of Internet Explorer, there is a setting called "Connect to the Internet as needed". This prompt enables or disables a setting called auto-dial feature for the TCP/IP stack.

Problem Reporting - Gathering Information for IBM Support

If you decide to open a problem record to IBM Support, please have the following information available when you place the call:
- The level of iSeries Access for Windows on the PC:

  From the Windows desktop, click **Start -> Programs -> IBM iSeries Access for Windows -> iSeries Access for Windows Properties**. From the General tab, record the Version, Release, Modification Level, and Service Level.
- The iSeries Cumulative PTF level.

  Type DSPPTF (Display Program Temporary Fix) on the iSeries command prompt. Record the first PTF ID in the list. It will have the format Tzxxyyy where xx is the year, yyy is the julian date and z is either L or C.
- The IBM Operating System/400 (OS/400) version (for example, V5R2M0).

  You can also find this at the DSPPTF screen. Record the Release field at the top of the screen.
- The version of Dial-Up Networking, if you are connecting over a SLIP or PPP connection.
- The PC application used and its version.
- A description of what you were attempting when the failure occurred.
- The exact text and error numbers of any error message that the PC application produced.

  Note: If you do not have a printer attached to the PC, press the Print Screen key to copy a bitmap of the current screen to the clipboard. Open the Microsoft Windows Paint accessory or WordPad under the Accessories group. Select Edit, Paste, and then save this printed screen in a file for future reference.
- Any VLOGs that are generated at the time the error occurred, if the VLOGs have any of the following codes:
  – Major code of 0700 and a minor code of either F230 or F299
  – Major code of 4400 and any minor code
  – Major code of 4401 and any minor code

Also, if the problem you are having is ODBC-related:
- The version of the PC's ODBC driver.

  Use the Windows Explorer to find CWBODBC.DLL in the iSeries Access directory. Place the cursor on CWBODBC.DLL and click the right mouse button. Select Properties from the menu. Go to the Version page and record the File version. If more than one file is found, report the versions of all the files found.

- The QZDASOINIT job log if it was produced.

Migrating to another Windows operating system

Users who have AS/400 Client Access for Windows 95/NT or iSeries Access for Windows installed and who want to migrate to another Windows operating system need to complete the following steps:
1. Uninstall AS/400 Client Access for Windows 95/NT or iSeries Access for Windows.
2. Migrate to the new Windows operating system.
3. Install iSeries Access for Windows.

TCP/IP configuration on the PC - Updating the HOSTS file

If you are migrating from Client Access for Windows 95/NT to iSeries Access for Windows and you are not using a domain name server, be aware that iSeries Access for Windows does not modify the HOSTS file. You need to manually add to the HOSTS file any new iSeries connections that you configure. The HOSTS file needs to contain the IP address and the name of the iSeries server that you want to connect to.

If you do not update the HOSTS file, you get one of the following error messages:
```
CWBCO1003 - Winsock error function returned 11001, [system name]
CWBCO1010 - Remote address could not be resolved
```

These messages reveal that the iSeries system name was not found during TCP/IP lookup. You will also experience a blank 5250 emulation screen.

To update the HOSTS file:
1. Open a DOS window.
2. Change to the directory that should contain the HOSTS file. For example:
   ```
   c:\>cd\winnt\system32\drivers\etc
   ```

   Note: The examples in this section use the `\winnt\system32\drivers\etc` directory, which is a Windows NT and Windows 2000 directory. On Windows 98 and Windows Me the directory would be `\windows`. On Windows XP the directory would be `\windows\system\drivers\etc`.
3. Edit the HOSTS file. For example:
   ```
   c:\winnt\system32\drivers\etc>edit hosts
   ```

   Note: With Windows NT 4.0 and Windows 2000, the HOSTS file MUST be in the **winnt\system32\drivers\etc** directory.

   With Windows 98, Windows Me, and Windows XP the HOSTS file MUST be in the **\windows\system32\drivers\etc** directory.

   Follow the instructions in the HOSTS sample file to add the IP address and name of the iSeries server that you want to connect to.
4. Save the HOSTS file.

   Note: For PC5250, if you do not use a domain name server (DNS) or hosts table, you cannot use a system name or host name to start the 5250 emulator delivered with iSeries Access for Windows. The left bottom corner of your emulation display indicates a 657 communication error

(*Resolving TELNET 5250 server host-domain name*). You may, however, use the iSeries IP address (For example, 10.20.30.40) in place of a name.

You may choose to use a HOSTS file if you have very few machines using TCP/IP. This requires that you maintain an up-to-date list on each computer. When an iSeries address changes, you **must** change the HOSTS file entry if one exists.

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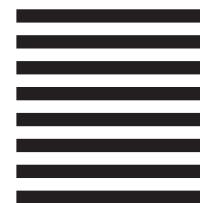
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